व्यावसायिक परीक्षण रिपोर्ट (प्रारंभिक)
COMMERCIAL TEST REPORT (Initial)

संख्या / No.: Imp. 263/340
माह / Month: March, 2019

THIS TEST REPORT VALID UPTO 31/03/2026

SHAKTIMAN ROTARY TILLER, Model: SRT-5(150)/MS GD SC
CENTRALLY MOUNTED, GEAR DRIVE, MULTI SPEED

सत्यमेव जयते

भारत सरकार
GOVT OF INDIA
कृषि एवं किसान कल्याण मन्त्रालय
MINISTRY OF AGRICULTURE & FARMERS WELFARE
कृषि, सहकारिता एवं किसान कल्याण विभाग
DEPARTMENT OF AGRICULTURE, COOPERATION & FARMERS WELFARE

उत्तर पूर्वी क्षेत्र कृषि यंत्र प्रशिक्षण एवं परीक्षण संस्थान
NORTH EASTERN REGION FARM MACHINERY TRAINING & TESTING INSTITUTE
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1	2	3	4	5	6	7
ii	Make	--	--	--	SHAKTIMAN	Yes
iii	Model	--	--	--	SRT-5(150)/MS GD SC	Yes
iv	Size, (m) {Dia of Rotor X Width of Cut}	Evaluative	Should be provided rotary tiller (Rotavator)	--	Not provided	No
v	Country of origin	--	--	--	India	Yes
vi	Year of manufacture	--	--	--	2018	Yes
vii	Chassis, Serial Number	--	--	--	AGBI101130153	Yes
viii	Recommended PTO speed of Prime mover(rpm)	--	--	--	Not provided	No
ix	Maximum PTO power requirement, kW	--	--	--	Above 45 hp	No
8.	CATEGORY OF BREAKDOWNS/ DEFECTS					
	Category of breakdowns	Category Evaluative/ Non Evaluative	Requirements		As Observed	Whether meets the requirements (Yes/ No)
i.	Critical breakdowns	Evaluative	No critical breakdown		None	Yes
ii.	Major breakdown	Evaluative	Not more than one and neither of them should be repetitive in nature.		**One**	Yes
iii.	Minor breakdowns	Evaluative	Not more than three and frequency of it's should not be more than two.		**One**	Yes
iv.	Total breakdowns	Evaluative	In no case, the total no of breakdown should exceed four, I e (1 major + 3 minor) or 4 minor breakdown		**Two**	Yes

11. SUMMARY OF OBSERVATIONS, COMMENTS AND RECOMMENDATIONS

11.1 One major and one minor breakdowns were observed during field test. Therefore, the best quality of blades must be used in future production line.

11.2 The dimension of three point linkage (hitch pyramid) of the rotary tiller (Rotavator) does not conform to IS: 4468-1997. This should be looked into for corrective action for standardization.

11.3 Dimensions of PIC of implement does not conform to IS: 4931-1995 and therefore, it should be looked into for corrective action.

11.4 Chemical composition of rotor blades does not conform to IS: 6690-2002. The percentage of carbon and Manganese content in composition of rotary tiller blade material was recorded as 0.256 and 1.275 respectively. The carbon content was on lower side and Manganese content was on higher side when compared with the relevant Indian Standard. Moreover, the hardness of edge portion of rotor blades also does not conform to relevant Indian Standard. It is therefore, recommended that the material of rotary tiller blade should be improved and provided as per requirement of Indian Standard.

11.5 The rate of work was recorded as 0.277 to 0.319 ha/h and the speed of operation vary from 2.50 to 2.71 kmph.

11.6 The Machines size is not specified. It must be specified.

11.7 The Recommended PTO speed of Prime mover (rpm) is not specified it. It must be specified.

11.8 In dry land operation average depth of cut was recorded 7.6 cm which does not meet the requirement of Indian Standard and field efficiency was recorded 75.63 % which is as per requirement of Indian standards in sandy loam soil, an average depth of puddle and puddling index was recorded as 30.1 cm and 83.07 % respectively, which is as per requirement of Indian standards.

11.9 The maximum PTO power requirement is encrypted on labeling plate in horse power; It should be encrypted in kW.

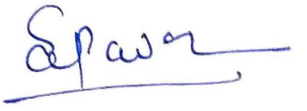
11.10 The hourly rate of wear of blade on mass basis in Dry land & Wet land operations was recorded as 0.04 to 0.10 % and 0.06 to 0.07 % respectively.

11.11 The hourly rate of wear of blade on dimensional basis in Dry land & Wet land operations was recorded as 0.01 to 0.15 % and as 0.02 to 0.12 % respectively.

11.12 No ingress of mud and/or water was found in primary and secondary reduction boxes after 37.07 hr of field operations and the sealing provided on different subassemblies were found effective.

10.13 Technical literature:
An Operator cum Service Manual & Parts Catalogue was provided along with the machine during the course of testing.

TESTING AUTHORITY

S. G. PAWAR **AGRICULTURAL ENGINEER**	
K.K. NAGLE **DIRECTOR**	

Test conducted & draft test report compiled by - Ashish Patel, STA(I)