

व्यावसायिक परीक्षण रिपोर्ट
COMMERCIAL TEST REPORT

संख्या/ No.: POWER WEEDER – 164/2983/2023
माह/Month: April, 2023

THIS TEST REPORT VALID UP TO : 30th April, 2028



**SIMPSON, ISAM 550
POWER WEEDER (COMMERCIAL)**



सत्यमेव जयते
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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11. RUNNING-IN

The Power weeder was run-in for 1.0 hour before field performance test as recommended by the applicant. All the fastners were checked & tightened thereafter.

12. FIELD TEST

The field test under dry land condition was conducted for 26.34 h. The field performance tests were conducted at the rated 2500 rpm. In all, 4 tests trials were conducted in Red soil at the Thoraipakkam, Chennai. The results of the field test for dry land operation is summarized in Table-5

Crop parameters

- i) Type of weed - Seasonal weed
ii) Weight of weed, cm - 4.8 to 15

Table 5: SUMMARY OF FIELD PERFORMANCE TEST

Sl. No.	Parameter		Range
i)	Type of soil	:	Sandy loam
ii)	Soil moisture, %	:	14.2 to 16.2
iii)	Bulk density of soil, g/cc	:	1.56 to 1.68
iv)	Speed of operation, kmph	:	1.71 to 1.92
v)	Depth of cut, cm	:	6.50 to 7.00
vi)	Width of cut, m	:	0.57 to 0.60
vii)	Area covered, ha/h	:	0.076 to 0.090
viii)	Time required for one ha	:	11.11 to 13.16
ix)	Fuel consumption		
		l/h :	0.70 to 0.82
		l/ha :	7.78 to 10.26
x)	Weeding efficiency, %	:	88 to 94
xi)	Field efficiency, %	:	72 to 85

13. ADJUSTMENT, DEFECTS, BREAKDOWNS & REPAIR

No noticeable breakdown occurred during test.

14. COMPONENTS/ASSEMBLY INSPECTION AND ASSESSMENT OF WEAR**14.1 Engine :**

The Engine and other assemblies were dismantled after 32.14 hours of operation.

14.1.1 Cylinder :

Cylinder bore dia. (mm)						Max. permissible wear limit
Top Position		Middle position		Bottom Position		
Thrust	Non-thrust	Thrust	Non-thrust	Thrust	Non-thrust	
68.01	68.01	68.01	68.01	68.01	68.02	68.165



Power weeder-164/2983/2023	SIMPSON, ISAM 550 POWER WEEDER (COMMERCIAL)
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16. COMMENTS & RECOMMENDATIONS

16.1 Mechanical vibration

The amplitude of mechanical vibration marked as (*) on the relevant chapter, are on drastically higher side. It is not just directly concerned with operator's health, safety and comfort, but also adversely affect the useful life of the components. In view of above, this deserve to be given top priority for corrective action.

16.2 The chemical composition of blades does not conform, to the requirements of IS: 6690-1981. This needs to be looked into for corrective action.

16.3 The grade of grease is not specified. It should be specified.


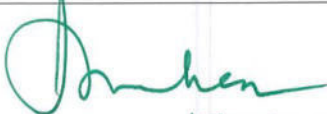
17. TECHNICAL LITERATURE

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

- Operator manual
- Parts catalogue
- Service manual

However, the manuals need to be updated as per IS: 8132-1999.

TESTING AUTHORITY

SANJAY KUMAR AGRICULTURAL ENGINEER	
Dr. MUKESH JAIN DIRECTOR	 17.04.2023

18. APPLICANT'S COMMENTS

Sr. No.	Our Reference	Applicant Comments
18.1	16.1, 16.2 & 16.3	We have taken necessary corrective action.

