

ब्यावसायिक परीक्षण रिपोर्ट संख्या/ No.: POWER WEEDER-158/2914/2022
COMMERCIAL TEST REPORT (FIRST BATCH) माह/Month: September, 2022

THIS TEST REPORT VALID UP TO : 30th September, 2027



**CAM 1G-4.1A,
POWER WEEDER**



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 fasteners was checked and tightened thereafter.

12. FIELD TEST

The field tests under dry land condition were conducted for 26.24 h. The field tests were conducted at rated speed 3600 rpm. In all, 5 tests trials were conducted in sandy loam soil at N.R.F.M.T.T.I farm, Hisar. The summary of the field test for dry land operation is given in table-4.

Crop parameters

- i) Type of weed - Seasonal weeds
ii) Height of weed, cm - 38 to 44

Table 4: SUMMARY OF FIELD PERFORMANCE TEST

Sr. No.	Parameter		Range
i)	Type of soil	:	Sandy loam
ii)	Soil moisture, %	:	14.0 to 16.30
iii)	Bulk density of soil, g/cc	:	1.82 to 2.25
iv)	Speed of operation, kmph	:	1.21 to 1.53
v)	Depth of cut, cm	:	7.5 to 9.0
vi)	Width of cut, m	:	0.81 to 0.83
vii)	Area covered, ha/h	:	0.08 to 0.11
viii)	Time required for one ha	:	9.26 to 12.79
ix)	Fuel consumption		
		l/h :	1.00 to 1.40
		l/ha :	11.13 to 13.50
x)	Weeding efficiency, %	:	86.4 to 89.8
xi)	Field efficiency, %	:	79.2 to 84.9

13. ADJUSTMENT, DEFECTS, BREAKDOWNS & REPAIR

No noticeable defect/breakdown observed during test.

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

The engine and other assemblies were dismantled after 31.69 hours of engine operation.

14.1.1 Cylinder:

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

17. COMMENTS & RECOMMENDATIONS**17.1 Engine rating test**

i) The rated power of engine and specific fuel consumption was not declared.

17.2 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 affects the useful life of the components. In view of above, this deserve to be given top priority for corrective action.

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

17.4 The hardness of blades does not conform to the requirements of IS: 6690-1981. This needs to be looked into for corrective action.

17.5 The make and model name of governor is not specified. It should be specified.


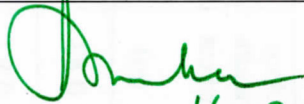
18. TECHNICAL LITERATURE

The following literatures are provided by the applicant.

- i) Operator manual
- ii) Parts catalogue
- iii) Service manual

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

TESTING AUTHORITY

Er. SANJAY KUMAR AGRICULTURAL ENGINEER	
DR. MUKESH JAIN DIRECTOR	 16.09.2022

19. APPLICANT'S COMMENTS

No specific comments received from the applicant.