

व्यावसायिक परीक्षण रिपोर्ट
COMMERCIAL TEST REPORT

संख्या/ No.: Power weeder: 177/3038/2023
माह/Month: June, 2023

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



**BHARAT ENGINEERING, BHARAT 5
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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2.	Silicon (Si)	--	0.38	--
3.	Manganese (Mn)	--	0.50	--
4.	Sulphur (S)	--	0.05	--
5.	Phosphorous (P)	--	0.04	--

11. TURNING ABILITY TEST (In field working condition)

Date of test : 22.03.2023
 Details of wheel equipment : Refer Para 2.3.1 of specification

Track width, mm:

Drive wheels : 600

Items	Diameter of turning circle, m:		Diameter of turning space, m:	
	LHS	RHS	LHS	RHS
Without brake	2.2	2.2	2.8	2.8

12. RUNNING-IN

The Power weeder was run-in for 0.92 hour before field performance test as recommended by the applicant. All the fasteners were checked & tightened thereafter.

13. FIELD TEST

The field test under dry land condition was conducted for 26.43 hours. The field performance tests was conducted at the 2000 engine rpm with flat blade attachment for 13.07 hours and with sweep blade attachment for 13.36 hours. In all, 6 tests trials were conducted in sandy loam soil at the NRFMTTI farm, Hisar. The results of the field test for dry land operation is summarized in Table-8

Crop parameters

- i) Type of weed - Seasonal weed
 ii) Height of weed, cm - 3.5 to 14

Table 8: SUMMARY OF FIELD PERFORMANCE TEST

Sr. no.	Parameter		Flat blade	Sweep blade
i)	Type of soil	:	Sandy loam	Sandy loam
ii)	Soil moisture, %	:	8.7 to 9.8	9.1 to 10.2
iii)	Bulk density of soil, g/cc	:	1.28 to 1.32	1.34 to 1.36
iv)	Speed of operation, kmph	:	3.98 to 4.29	4.00 to 4.22
v)	Depth of cut, cm	:	4.60 to 4.73	6.50 to 6.77
vi)	Width of cut, m	:	1.07 to 1.08	1.15 to 1.16
vii)	Area covered, ha/h	:	0.34 to 0.39	0.36 to 0.40
viii)	Time required for one ha, h/ha	:	2.56 to 2.94	2.52 to 2.78
ix)	Fuel consumption			
		l/h	0.56 to 0.65	0.55 to 0.63
		l/ha	1.64 to 1.67	1.52 to 1.63
x)	Weeding efficiency, %	:	89.41 to 92.19	88.23 to 93.46
xi)	Field efficiency, %	:	79.44 to 84.78	78.26 to 81.18



26.	Direction of exhaust emission away from operator	Must be provided	Provided	Conforms
27.	Marking/labeling machine	The labeling plate should be riveted on the body of machine having Name and address of manufacturer & Applicant, Country of origin, Make, Model, Year of manufacture, Serial number, Engine number, Engine HP, Rated rpm & SFC.	Partially meet the requirement	Partially conform
28.	Literature	Operator manual, service manual and Parts catalogue should be provided.	Provided	Conforms

17. COMMENTS & RECOMMENDATIONS

17.1 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.

17.2 The chemical composition of both flat and sweep blades does not conform, to the requirements of IS: 9813-2002. This needs to be looked into for corrective action.

17.3 The hardness of both flat and sweep blades does not conform, to the requirements of IS: 9813-2002. This needs to be looked into for corrective action.

17.4 The model name of fuel injection pump (F.I.P) is not specified. It should be specified.

17.5 The model name of injector is not specified. It should be specified.

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

17.7 The spark arresting device is not provided. It should be provided.

17.8 The labeling plate should be riveted on the machine with following information.

- a) Name and address of manufacturer & applicant
- b) Country of origin
- c) Make
- d) Model
- e) Serial number
- f) Engine number
- g) Engine hp
- h) Engine rated rpm
- i) S.F.C
- j) Year of manufacture

17.9 The provision for handle rotation must be provided to meet the requirements of Critical Technical Specification.




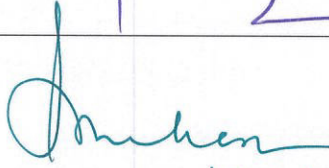
18. TECHNICAL LITERATURE

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

- a) Operator manual
- b) Parts catalogue
- c) Service manual

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

TESTING AUTHORITY

Er. SANJAY KUMAR AGRICULTURAL ENGINEER	
Dr. MUKESH JAIN DIRECTOR	 14.06.2023

19. APPLICANT'S COMMENTS

No specific comments received from the applicant.

