

ब्यावसायिक परीक्षण रिपोर्ट  
COMMERCIAL TEST REPORT

संख्या/ No.: POWER WEEDER-160/2920/2022  
माह/Month: September, 2022

**THIS TEST REPORT VALID UP TO : 30<sup>th</sup> September, 2027**



**VELMOC, CW 1060D  
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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**12. FIELD TEST**

The field tests under dry land condition were conducted for 26.65 hrs. The field tests were conducted at the rated 3300 rpm. In all, 5 tests trials were conducted in sandy loam soil at NRFMTTI farm, Hisar. The summary of the field test for dry land operation is given in table-6.

**Crop parameters**

- i) Type of weed - Seasonal weeds  
ii) Height of weed, cm - 3.0 to 12.0

**Table 6: SUMMARY OF FIELD PERFORMANCE TEST**

Sl. No.	Parameter		Range
i)	Type of soil	:	Sandy loam
ii)	Soil moisture, %	:	10.2 to 13.7
iii)	Bulk density of soil, g/cc	:	1.310 to 1.690
iv)	Speed of operation, kmph	:	1.27 to 1.35
v)	Depth of cut, cm	:	10.00 to 10.03
vi)	Width of cut, m	:	1.23 to 1.24
vii)	Area covered, ha/h	:	0.130 to 0.144
viii)	Time required for one ha	:	6.94 to 7.69
ix)	Fuel consumption		
		l/h :	0.66 to 1.25
		l/ha :	5.00 to 9.61
x)	Weeding efficiency, %	:	93.02 to 97.50
xi)	Field efficiency, %	:	80.0 to 84.7

**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 36.60 hours of engine operation.

**14.1.1 Cylinder :**

Cylinder bore dia. (mm)						Max. permissible wear limit (mm)
Top Position		Middle position		Bottom Position		
Thrust	Non-thrust	Thrust	Non-thrust	Thrust	Non-thrust	
78.03	78.02	78.03	78.01	78.03	78.01	78.15

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 manufacturer, Serial number, Engine number, Engine HP, rated rpm & SFC.	Partially meet the requirement	Conforms
28.	Literature	Operator manual, service manual and Parts catalogue should be provided.	Provided	Conforms

**Note:-** The implementation of critical technical specifications has been deferred till 30.09.2022 vide Ministry's O.M. No. 13-1/2021 M&T (I&P) dated 03.02.2022

## 16. COMMENTS & RECOMMENDATIONS

### 16.1 Engine performance

**16.1.1** The maximum power of engine was observed as 3.45 kW against the declared power of 5.1 kW, which is very less.

**16.1.2** The rated power is observed as 3.72 kW at 3600 rpm against manufacturer's declared power of 4.0 kW at 3600 rpm

**16.1.3** The specific fuel consumption corresponding to maximum power is not specified. It **MUST** be specified.

**16.1.4** During the two hours maximum power test, observed engine power is 3.45 kW at 3650 rpm, whereas in the power search/varying speed test, the engine power is observed to be 3.78 kW at 3650 rpm.

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

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

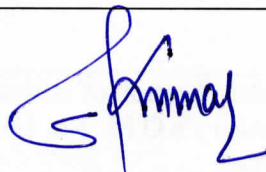
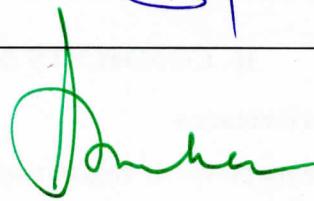
**17. TECHNICAL LITERATURE**

The following literatures are provided by the applicant.

- i) Operator manual
- ii) Spare parts manual
- iii) Owner's Manual of engine

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

**TESTING AUTHORITY**

Er. SANJAY KUMAR AGRICULTURAL ENGINEER	
Dr. MUKESH JAIN DIRECTOR	 26.09.2022

Test report is compiled by Sh. Girdhari Lal, Technician

**18. APPLICANT'S COMMENTS**

No specific comments received from the applicant.