व्यावसायिक परीक्षण रिपोर्ट | संख्या/ **No.: Power weed-157/2910/2022**

COMMERCIAL TEST REPORT | माह/**Month: September, 2022**

THIS TEST REPORT VALID UP TO : 30th September, 2029

RICOITALY-RI500JX
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

ट्रैक्टर नगर, सिरसा रोड, हिसार, (हरियाणा) - 125 001

Tractor Nagar, Sirsa Road, HISAR (Haryana)-125 001

[ISO 9001:2015 CERTIFIED]

Website: http://nrfmtti.gov.in/

E-mail: fmti-nr@nic.in Tele./FAX: 01662-276984

11. RUNNING IN

The Power weeder was run-in for 0.68 hour before field performance test as recommended by the applicant. All the fasteners were checked and tightened thereafter.

12. FIELD TEST

The field tests under dry land condition were conducted for 26.67 hours. The field performance tests were conducted at the rated 3600 rpm. In all, 5 tests trials were conducted in sandy loam soil at the NRFMTTI farm, Hisar. The result of the field test for dry land operation is summarized in table-6.

Crop parameters

i) Type of weed - Seasonal weeds
ii) Height of weed, cm - 37 to 41

Table 6: SUMMARY OF FIELD PERFORMANCE TEST

Sr. No.	Parameter		Range
i)	Type of soil	:	Sandy loam
ii)	Soil moisture, %	:	9.30 to 10.40
iii)	Bulk density of soil, g/cc	:	1.595 to 1.630
iv)	Speed of operation, kmph	:	1.36 to 1.94
v)	Depth of cut, cm	:	5.82 to 6.67
vi)	Width of cut, m	:	1.12 to 1.18
vii)	Area covered, ha/h	:	0.134 to 0.161
viii)	Time required for one ha	:	6.37 to 7.87
ix)	Fuel consumption		
	l/h	:	1.27 to 1.76
	l/ha	:	10.00 to 12.31
x)	Weeding efficiency, %	:	86.66 to 87.96
xi)	Field efficiency, %	:	70.53 to 83.96

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 31.77 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	
86.02	86.01	86.01	86.01	86.01	86.01	0.20

16. COMMENTS & RECOMMENDATIONS

16.1 Engine performance

i) The maximum power of engine was observed as 3.55 kW against the declared power of 5.20 kW.

ii) Rated power is observed as 3.4 kW against the declared power of 5.0 kW.

iii) Specific fuel consumption (SFC) corresponding to maximum power was observed as 1671.2 g/kWh against declared SFC of 300 g/kWh, which is very high.

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 deserved to be given top priority for corrective action.

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

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

17. TECHNICAL LITERATURE

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

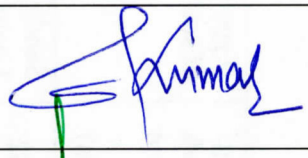
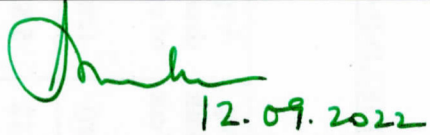
i) Operator's manual

ii) Part catalogue

iii) Engine parts catalogue

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

TESTING AUTHORITY

Er. SANJAY KUMAR AGRICULTURAL ENGINEER	
Dr. MUKESH JAIN **DIRECTOR**	 12.09.2022

Test report is compiled by Sh. Deny Hasnu, Senior Technician.

18. APPLICANT'S COMMENTS

No specific comments received from the applicant.