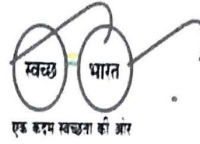


व्यावसायिक परीक्षण रिपोर्ट
COMMERCIAL TEST REPORT



संख्या / No.: Machine 29/311
माह / Month: MAY, 2018



SHRACHI 75Z POWER WEEDER



सत्यमेव जयते

भारत सरकार

GOVT OF INDIA

कृषि एवं किसान कल्याण मन्त्रालय

MINISTRY OF AGRICULTURE & FARMERS WELFARE

कृषि, सहकारिता एवं किसान कल्याण विभाग

DEPARTMENT OF AGRICULTURE, COOPERATION & FARMERS WELFARE

उत्तर पूर्वी क्षेत्र कृषि यंत्र प्रशिक्षण एवं परीक्षण संस्थान

NORTH EASTERN REGION FARM MACHINERY TRAINING & TESTING INSTITUTE

विश्वनाथ चारिआलि, जिला- विश्वनाथ (असम)

BISWANATH CHARIALI: BISWANATH: ASSAM, PIN - 784 176

[AN ISO 9001:2015 CERTIFIED INSTITUTION]

Website: <http://nerfmtti.nic.in>

Ph. No. 03715-222094

Fax No: 03715-230358

E-Mail: fmti-ner@nic.in

14.4 Rotary Drive Unit :

The rotary drive unit was dismantled and all the components were found in normal working condition which found satisfactory.

15.1 15. SUMMARY OF OBSERVATION, COMMENTS AND RECOMMENDATIONS
Engine performance test :

Power kW	Crank shaft torque Nm	Crank shaft speed, rpm	Fuel consumption			Specific energy kWh/l
			Hourly		Specific g/kWh	
			l/h	kg/h		
1	2	3	4	5	6	7
Maximum power 2 hour Test :						
2.80	7.40	3600	2.04	1.71	614.3	1.37
2.16	5.73	3600	2.11	1.56	978.7	1.02*
Power at rated engine speed (3600 rpm) :						
2.80	7.40	3600	2.04	1.71	614.3	1.37
* High Ambient conditions.						

- The maximum gross power of engine was recorded as 2.80 kW at 3600 rpm against manufacturer's declaration of 4.5 kW under natural ambient condition.
- The specific fuel consumption corresponding to maximum power was recorded as 614.3 g/kWh against manufacturer's declaration of 280 g/kWh under natural ambient condition.

15.2 Noise measurement :

Maximum noise at operator's ear level & at by standard level was observed as 111.0 dB (A) & 96.0 dB (A) respectively.

15.3 Mechanical vibration :

The amplitude of mechanical vibration on various assemblies of the Power Weeder was higher side and is directly concerned with operator's Health, Safety and comfort. Besides, it also adversely affect the useful life of the components. In view of the above, this should to be given top priority for corrective action.

15.4 Hardness and chemical composition of blade:

The hardness of rotor blade was observed as 37 HRC against the requirement of 56 ± 3 HRC. This may be locked in to for corrective action.

All constituents except Carbon and Manganese of rotor blade conform to the requirement of the relevant code (IS 6690: 1981) Reaffirmed 2012 & there for it should be looked in to for the corrective action.

15.5 Rate of work :

- The rate of work was recorded as 0.110 to 0.134 ha/h with a forward speed 1.14 to 1.50 km/h.
- The time required to cover one hectare was recorded as 7.5 to 9.1 h.

15.6 Quality of work :

- The depth of cut was recorded as 6.8 to 8.0 cm
- Average working width was observed as 103 to 106 cm
- Field efficiency was observed as 81.8 to 91.7 %
- Weeding efficiency was observed as 88.1 to 96.4

15.7 Fuel consumption :

The fuel consumption for field test was recorded as 1.48 to 1.65 l/h.

15.8 Labour requirement :

One skilled operators was needed to operate the power weeder continuously

15.9 Ease of operation and adjustment :

No noticeable difficulty was observed during the operation and adjustment of the machine.

15.10 Defects and breakdown :

No breakdown was occurred during field test and laboratory test.

15.11 Components/assembly inspection :

The power weeder was dismantled after field & laboratory of test various components/assembly of the machine was dismantled for inspection. All the components were found to be in satisfactorily normal working condition.

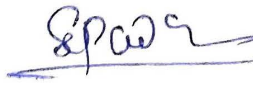

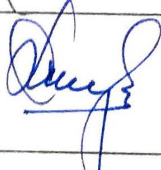
15.12 The particulars provided on marking/labeling plate is not adequate. It is therefore recommended to provide the following details in unequivocal terms.

a) Make	e) Max Power (kW)
b) Model	f) Specific fuel consumption (g/kWh)
c) Engine No.	g) Country origin
d) Chassis No.	h) Year of manufacture

15.13 Technical Literature :

Operator's manual of Power Weeder and Workshop manual of Engine was provided for reference during the test, however, the same as well as a service manual and Part's Catalog may be brought out as per IS: 8132-1999.

TESTING AUTHORITY

S. G. PAWAR AGRICULTURAL ENGINEER	
A.K. UPADHYAY SENIOR AGRICULTURAL ENGINEER	
K.K. NAGLE DIRECTOR	

Draft test report compiled by -

Sh. Abhishek Tiwari & Sh. Sandeep Kumar