



MHASWADKAR BAM55 POWER WEEDER



भारत सरकार

Government of India

कृषि एवं किसान कल्याण मंत्रालय

Ministry of Agriculture and Farmers Welfare

कृषि, सहकारिता एवं किसान कल्याण विभाग

Department of Agriculture, Cooperation and Farmers Welfare

दक्षिणी क्षेत्र कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान

Southern Region Farm Machinery Training and Testing Institute

ट्रैक्टर नगर, गार्लदिन्ने-515 731, जिला: अनंतपुर (आं. प्र.)

Tractor Nagar, Garladinne-515 731, District: Anantapur (A.P.)

[An ISO 9001:2015 CERTIFIED INSTITUTE]

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Machine-344/1160	MHASWADKAR BAM55 POWER WEEDER	COMMERCIAL (ICT)
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Manufacturer : M/s. Chongqing Dinking Power Machinery Co. Ltd., Caojie Development Area, Industrial Park, Hechuan, Chongqing **China.**

Applicant : M/s. Mhaswadkar Autolines Pvt. Ltd., 283/3/1B, Karanje, New Radhika Road, Near Market Yard, Satara-415001, Maharashtra, **India.**

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Report No. : Machine-344/1160 Month: May Year: 2020



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Valve, guides and timing gears:	Observation
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Any marked sign of overheating of valves	: None
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Pitting of seat/faces of valves	: None
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Any visual damage to the teeth of timing gears	: None
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Clearance between valve guide and valve stem (mm)

- Intake valve	: 0.09
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- Exhaust valve	: 0.08
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16.2 Transmission gears:

All the gears of the transmission system were found in normal working condition.

16.3 Rotary drive unit:

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

17. COMMENTS & RECOMMENDATIONS

17.1 Engine Performance:

17.1.1 The maximum power and rated power were observed as 4.2 kW under natural ambient condition against the declared value of 3.4 kW.

17.1.2 Specific fuel consumption of engine corresponding to maximum power was recorded as 311 g/kWh against the declared value of 395 g/kWh. This should be looked into for corrective action.

17.1.3 Max. Torque was observed as 12.8 Nm against the declared value of 9.1 Nm. This should be looked into for corrective action.

17.1.4 Back up torque of engine was observed as 5.79 %, against the declared value of 9.2%.

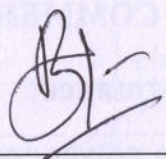

17.1.5 **During varying speed test of engine at both natural & high ambient conditions after attaining max. torque at 12.8 Nm & 12.4 Nm respectively, while further loading, sudden drop of engine rpm was observed.**

17.2 Max. Noise at operator's ear level was observed as 88 dB (A).

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- 17.3 The amplitude of mechanical vibration on most of the assemblies of the Power Weeder was observed on higher side and to the extent of maximum 370 microns, Which 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 be taken care for corrective action.
- 17.4 The hardness of rotary blades do not conform to the requirement of IS 6690:1981 (Reaffirmed 2012). This should be looked into for corrective action.
- 17.5 Silicon content of the chemical composition of rotary blade is not as per the requirement of IS 6690:1981. This should be looked into for corrective action.
- 17.6 The provided labeling plate should be as per the requirement IS.
- 17.7 **Technical literature:**
The Operation manual and parts catalogue of power weeder and in separate booklets were supplied with the test sample for reference during the test. It is however, recommended that same may be revised and bought out in Hindi & other regional languages as per IS 8132:1999 (Reaffirmed 2004) for the sake of user & technical personnel.

TESTING AUTHORITY:

B.N. DIXIT AGRICULTURAL ENGINEER	
Dr. P.P. RAO DIRECTOR	

18. APPLICANT'S COMMENTS

Para No.	Our reference	Applicant's comments
18.1	17.1	We have noted the comments and will inform to our manufacturer to take care of it
18.2	17.2	We will look into it regarding this matter
18.3	17.3	We will look into for reducing the mechanical vibration in future products
18.4	17.4 & 17.5	We will make possible necessary changes in rotary blade
18.5	17.6	Point is noted and will try to implement for further
18.6	17.7	We will brought out the literature as per your recommendation