व्यावसायिक परीक्षण रिपोर्ट (प्रारंभिक)
COMMERCIAL TEST REPORT (Initial)

संख्या/No.: Machine 126/497
माह / Month: June 2024

INCOMPLETE REPORT

MHASWADKAR, BAM68EA, POST HOLE DIGGER

सत्यमेव जयते

भारत सरकार
GOVERNMENT OF INDIA
कृषि एवं किसान कल्याण मंत्रालय
MINISTRY OF AGRICULTURE AND FARMERS WELFARE
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DEPARTMENT OF AGRICULTURE AND FARMERS WELFARE
उत्तर पूर्वी क्षेत्र कृषि यंत्र प्रशिक्षण एवं परीक्षण संस्थान
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4. SPECIFICATIONS

4.1 General

Name of the Machine	:	Post Hole Digger
Name and address of the manufacturer	:	**M/s Yongkang Vauban Trade Co. Ltd., 4th floor, 9-3 Jiuding Road, Economic Development Zone, Yongkang City, Zhejiang Province, CHINA**
Name and address of the applicant	:	**Mhaswadkar Autolines Pvt Ltd, 283/3/1B, Karanje, New Radhika Road, Satara, 415001, Maharashtra**
Make	:	**MHASWADKAR**
Model	:	BAM68EA
Serial No.	:	68EA230064
Type	:	Engine Powered Manually Operated
Year of manufacture	:	2022
Country of origin	:	**CHINA**
Recommended use (apa)	:	Digging holes for plantation

4.2 Constructional details:

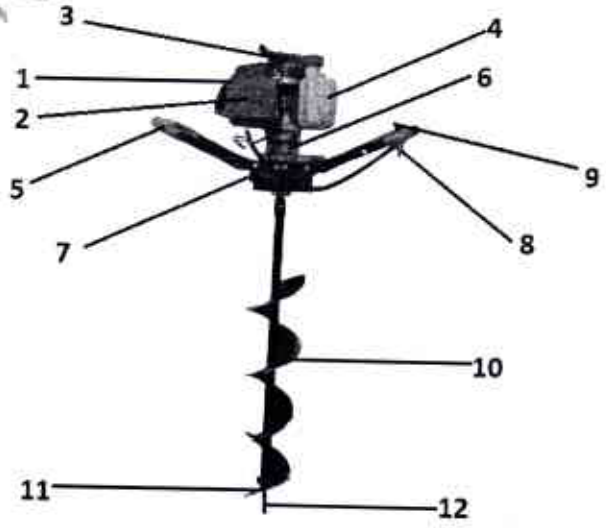

Fig. 1: MHASWADKAR POST HOLE DIGGER, MODEL: BAM68EA

SUMMARY OF FIELD PERFORMANCE TEST

Sl. No.	Parameters	Observations
1	Size of Auger (mm)	100 and 150
2	Soil bulk density (g/cc)	155 to 175
3	Soil moisture (%)	8.0 to 11.2
4	Dia. of hole (mm)	105.4 to 158
5	Depth of hole (mm)	547.8 to 584.4
6	No. of holes drilled per hour	109 to 139
7	Time required for one hole (sec)	20.7 to 29.9
8	Fuel consumption	
	-l/h	1.18 to 1.32
	-l/hole	0.008 to 0.012

12.1 Rate of work

- Dia. of hole was recorded as 105.4 to 158 mm.
- Depth of hole was recorded as 547.8 to 584.4 mm.
- No. of holes drilled per hour was recorded as 109 to 139.
- Time required for making one hole was recorded as 20.7 to 29.9 sec.

12.2 Fuel consumption

- Fuel consumption was observed as 1.18 to 1.32 l/h and 0.008 to 0.012 l/hole.

12.3 Labour/operator requirement:

It was observed that two averagely built person can able to operate the post hole digger for 25 to 30 minutes at a stretch. Hence, four operators are required for continuous operation.

12.4 Adequacy of power of prime mover :

The power of prime mover was found adequate during field performance test.

13. EASE OF OPERATION AND ADJUSTMENTS

Fatigue was observed by the operators just after half an hour of operation of post hole digger due to excessive mechanical vibration and noise of machine. The operators felt pain in different body parts like shoulders, back and hands during the operation.

14. DEFECTS, BREAKDOWNS AND REPAIRS

1. A crack was observed in engine crankcase just after start of the engine performance test and hence engine test could not be conducted.
2. After completion of field performance test, oil leakage was observed from crankshaft oil seal. The damaged oil seal was replaced with new one after competent authority's approval.

15. COMPONENTS/ASSEMBLY INSPECTION

Components/Assembly inspection was not done due to incomplete test as engine test could not be conducted.

16. COMMENTS & RECOMMENDATIONS

16.1 **A crack was observed in engine crankcase just after start of the engine performance test and hence engine test could not be conducted and therefore incomplete test report has been issued. This should be looked into for quality improvement.**

16.2 After completion of field performance test, oil leakage was observed from crankshaft oil seal. The damaged oil seal was replaced with new one after competent authority's approval. This should be looked into for quality improvement.

16.3 The engine was not marked with Manufacturer's name or trade-mark, Rated power, Rated speed and type of fuel used which does not fulfill the requirement of IS 7347-1974 (Amended 2011). This may be looked into.

16.4 Noise at operator's ear level was observed on much higher side against danger limit of 90 dB(A) as specified by International Labour Organization (ILO) for continuous exposure of 8 hours per day. This calls for reduction in noise level to improve the operational comfort and safety of the operator.

16.5 The amplitude of mechanical vibration marked as (*) was on drastically higher side and is directly concerned with operator's health, safety and comfort. Besides, it is also adversely affect the useful life of machine components. In view of above, this deserves to be given top priority for corrective action.

16.6 The hardness and chemical composition of auger blade, auger and auger bit does not conform to Indian Standard IS: 6690 – 1981 (Reaffirmed 2012) & IS 6025:1982. This should be looked into for corrective action.

16.7 As the machine is imported, name and address of manufacturer and country of origin shall be mentioned on the labelling plate.

16.8 **As a safety wear, safety shoes, goggles (safety glass), hand gloves, helmet, ear plug, mask etc were not provided with the machine. The applicant is strictly advised to provide the safety wears along with each machine for the safety of operator.**

16.9 **Adequacy of Literature**

The following literature in English language was provided for reference during testing:

- Operator's/ Service manual
- Parts catalogue

It is recommended to bring out the manual in Hindi and other vernacular languages as per IS: 8132-1999.

TESTING AUTHORITY

(M. R. PATIL)
AGRICULTURALENGINEER

(Dr. P.P. RAO)
DIRECTOR

Draft test report compiled by - **Shri J. Bhon Singh, STA**

17.APPLICANT'S COMMENTS

Para No.	Our Reference	Applicant's Comments
17.1	16.1 to 16.9	We will take necessary action as per comments and recommendations in the test report for improvement in the future production.