

प्रारंभिक व्यावसायिक परीक्षण रिपोर्ट
INITIAL COMMERCIAL TEST REPORT

संख्या/No. CSIR/CMERI/FMTTC/2024/047

माह/Month: September 2024

THIS TEST REPORT VALID UP TO

:

31st AUGUST, 2031



**SHB BABY POWER SPRAYER
(MODEL: SHB BABY)**



सत्यमेव जयते

Government Of India



कृषि मशीनरी प्रशिक्षण और परीक्षण केंद्र
Farm Machinery Training and Testing Centre
सीएसआईआर- केन्द्रीय यांत्रिक अभियांत्रिकी अनुसंधान संस्थान
CSIR - Central Mechanical Engineering Research Institute

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4 SPECIFICATIONS

4.1 General

Type of machine	:	Petrol Engine operated Power Weeder
Make	:	Self-propelled, Walk Behind
Model	:	SHB BABY
Serial No.	:	
Name and address of manufacturer	:	SHB Agro Power India Pvt. Ltd. Sukhsadan, OPP. Uttarayan Building N.N. Ray Road, Coochbehar, Pin:736101, West Bengal, India
Year of manufacture	:	2024
Country of origin	:	China

4.2 Details of prime mover

Name and address of manufacturer*	:	ZHEJIANG SIFANG IMP. EXP.CO.LTD. 7 TH Floor, Jindian Tower, Hardware Center, Yongkang, Zhejiang, China
Type	:	Single Cylinder, 2 Stroke, Air Cooled
Make*	:	SHB
Model*	:	BABY
Country of origin*	:	China
Year of manufacture*	:	2024
Engine speed (Manufacturer's recommended setting), (rpm)*	:	
High idle speed	:	9000 ±100
Low idle speed	:	2500±100
Rated speed, (rpm)*	:	8500±100
No load engine speed for field operation, (rpm)*	:	Not Specified
Speed at maximum torque, rpm*	:	6400±100
Max Torque (Nm)*	:	Not known
Rated Power (kW)*	:	1.5 @ 8500 rpm
Max Power (kW)*	:	1.5

*As per specification sheet provided by applicant

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10 RUNNING IN

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

11 FIELD TEST

The field test under dry land condition was conducted for 22.30 h. The field performance tests were conducted at the rated 7500 rpm. Multiple test trials were conducted in sandy loam soil at the FMTTC, CSIR-CMERI farm, Durgapur. The results of the field test for dry land operation are summarized in Table – 5.

Crop parameters

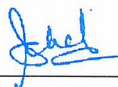
i)	Type of weed	:	Seasonal Grass
ii)	Height of weed, cm	:	9 to 22

Table 5: Summary of field performance test

Sl. No.	Parameter	:	Range
i	Type of soil	:	Sandy Loam
ii	Average Soil moisture (%)	:	14.1 to 18.2
iii	Average Bulk density of soil (g/cc)	:	1.55 to 1.71
iv	Average Speed of operation (kmph)	:	1.33 to 1.53
v	Average depth of cut (cm)	:	7.0 to 7.2
vi	Average Width of cut (m)	:	0.41 to 0.43
vii	Average Area covered (ha/h)	:	0.04 to 0.06
viii	Average Time required for one ha (Hr.)	:	16.2 to 23.1
ix	Average Fuel consumption		
	L/hr.	:	0.8 to 1.1
	L/ha	:	16.7 to 21.5
x	Average Weeding efficiency (%)	:	90.4 to 95.6
xi	Average Field efficiency (%)	:	62.4 to 80.9

The detailed field performance testing data is given in Annexure I.

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25.	Provision for cover on Exhaust	Must be provided	Provided	Conforms
26.	Direction of exhaust emission away from Operator	Must be provided	Provided	Conforms
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.	Not Provided	Does not Confirm
28.	Literature	Operator manual, service manual and Parts' catalogue should be provided.	Parts' catalogue is not Provided	Does not Confirm in toto.

14 COMMENTS & RECOMMENDATION

- 14.1 It appears that the machine lacks an imprinted serial number, which is a matter that requires further attention.
- 14.2 The mechanical vibration marked as (*) under section 6, are on higher side. It is not just directly concerned with operator's health, safety and comfort, but also adversely affects the useful life of the components. It needs to be corrected.
- 14.3 Observed Noise level of the Power weeder by operator's ear level is on the higher side. This needs to be considered for corrective action.
- 14.4 Chemical composition of the blade does partially confirm with the IS Standard requirement.
- 14.5 Marking/ Labelling plate does not confirm with the critical specification requirement. This need to be considered for corrective actions.
- 14.6 The parts catalogue is not provided. It needs to be provided as per IS standards.
- 14.7 The user's or service manual is provided. But it needs to be updated as per IS standards.

Report prepared by



Report verified by
Subrata kr Mandal

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15 TECHNICAL LITERATURE

The following literatures are provided by the applicant during the test along with the application form.

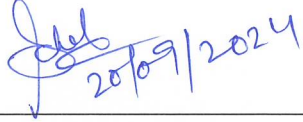
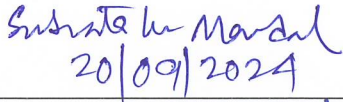
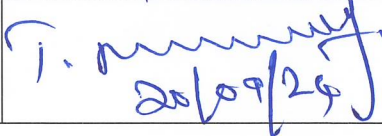
- a) User's manual book
- b) Service manual.

The following literatures are not provided by the applicant during the test along with the application form.

- a) Parts' catalogue

These manuals need to be provided and updated as per IS: 8132-1999.

TESTING AUTHORITY

Report Prepared by	Sr. Technical Officer, CSIR-CMERI Farm Machinery Testing Centre	 20/09/2024
Report Verified & Approved by	In-Charge, CSIR-CMERI Farm Machinery Testing Centre	 20/09/2024
Report Approved for release by	Head, Business Development Unit, CSIR-CMERI, Durgapur	 20/09/24

16 APPLICANT'S COMMENTS

Para No.	Our Reference	Applicant's Comments
16	14.1 to 14.7	Please be informed that we have noted and gone through all the points and taken immediate corrective action against points of page no 19 of 21 under column no 14 point no 14.1 to 14.7.

