

प्रारंभिक व्यावसायिक परीक्षण रिपोर्ट
INITIAL COMMERCIAL TEST REPORT

संख्या/No. CSIR/CMERI/FMTTC/2024/053

माह/Month: September, 2024

THIS TEST REPORT VALID UP TO : 31st AUGUST 2031



SUN AGRO BRUSH CUTTER
(MODEL – SA-BCBP1)



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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CSIR/CMERI/FMTTC/2024/053	SUN AGRO BRUSH CUTTER (MODEL NO.-SA-BCBP1) (INITIAL COMMERCIAL TEST)
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Type of Test : Initial Commercial Test

Period of Test : July 2024 – August 2024

Test Report No. : CSIR/CMERI/FMTTC/2024/053

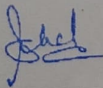
Month and Year : September 2024

- i. The results reported in this report are observed values and no corrections have been applied for atmospheric and site conditions.
- ii. The data given in this report pertains to the particular machine submitted by the applicant for test.
- iii. The results presented in this report do not in any way attribute to durability of the machine.
- iv. The report should not be reproduced in part or full without prior permission of the Director, CSIR- Central Mechanical Engineering Research Institute, M G Avenue, Durgapur -713209 (West Bengal)
- v. This report cannot be used for legal purposes.
- vi. This test report is not covered under BIS certification. Therefore, the manufacturers cannot market the machine with ISI mark, only on the strength of this report.

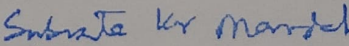
SELECTED CONVERSIONS

- 1. **Force**
 - 1 kgf = 9.80665 N
 - = 2.20462 lbf
- 2. **Power**
 - 1 HP = 1.01387 Metric HP (Ps)
 - = 745.7 W
 - 1 Ps = 735.5 W
- 3. **Pressure**
 - 1 psi = 6.895 kPa
 - 1 kgf/sq.cm = 98.067 kPa
 - = 735.56 mm of Hg
 - 1 bar = 100 kPa
 - = 10 N/sq.cm.
 - 1 mm of Hg = 1.3333 m-bar
- 4. **Area**
 - 1 ha = 10000m²
 - = 2.471 Acres

Report prepared by



Report verified by



5 SPECIFICATIONS

5.1 General

Type of machine	: Brush Cutter 4 Stroke Backpack 35 cc
Make	: Sun Agro
Model	: SA-BCBP1
Serial No.	: Not Specified
Name and address of manufacturer	: Sun Agro C/o Adarsh Service Station, G.E. Road Supela, Bhilai, Pin – 490023, Chhattisgarh
Year of manufacture	: 2024
Country of origin	: India
Recommended use	: For cutting grass and weeds

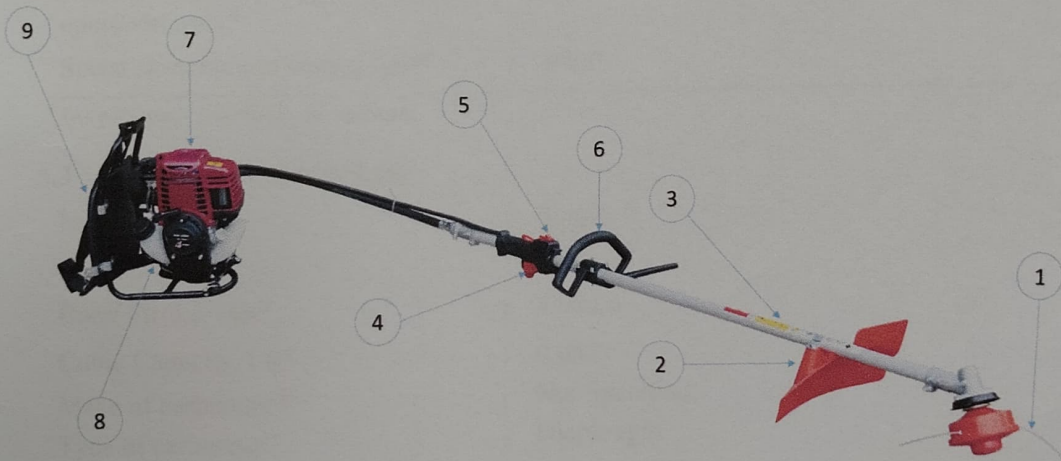


FIG. 1: SCHEMATIC VIEW OF BRUSH CUTTER

1. Rotor Blade	2. Grass deflector	3. Frame pipe
4. Throttle cum clutch lever switch	5. Engine stopping	6. Handle grip
7. Engine	8. Fuel tank	9. Backpack belt

Report prepared by

[Signature]

Report verified by

[Signature]

12 EASE OF OPERATOR, ADJUSTMENT AND SAFETY

No problem was observed during the test except, the fatigue was observed during the operation of the machine due to excessive mechanical vibration and noise.

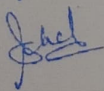
13 DEFECTS, BREAKDOWN AND REPAIRS

No breakdown occurred during 22.08 hours of operation.

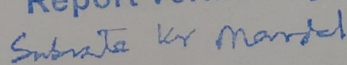
14 COMMENTS & RECOMMENDATION

- 14.1** The noise level at the OEL lever is higher which needs to be reduced to improve the operator's comfort and safety.
- 14.2** The mechanical vibration is on the higher side. It is not just directly affecting the operator's health, safety, and comfort, but also adversely affect the useful life of the components. Corrective action needs to be taken to reduce the vibration level.
- 14.3** The chemical composition of the cutting blade does not meet the requirement as per IS: 6025 -1982. It should be looked into.
- 14.4** User manual, parts catalogue and service manual is not provided along with the machine. It should be provided as per IS Standards.

Report prepared by



Report verified by



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15 TECHNICAL LITERATURE

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

- User's manual book
- Parts' catalogue
- Service manual

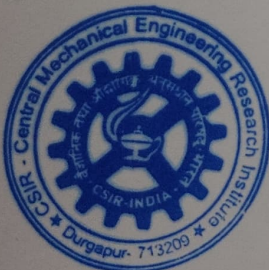
These manuals need to be provided as per IS: 8132-1999.

TESTING AUTHORITY

Report Prepared by	Sr. Technical Officer, CSIR-CMERI Farm Machinery Testing Centre	<i>[Signature]</i> 24/09/2024
Report Verified & Approved by	In-Charge, CSIR-CMERI Farm Machinery Testing Centre	<i>[Signature]</i> 24.09.2024
Report Approved for release by	Head, Business Development Unit, CSIR-CMERI, Durgapur	<i>[Signature]</i> 24.09.2024

16 APPLICANT'S COMMENTS

Para No.	Our Reference	Applicant's Comments
16	14.1 to 14.4	Corrective actions will be taken against the given comments & recommendations from 14.1 to 14.4



Farm Machinery Training and Testing Centre,
CSIR-Central Mechanical Engineering Research Institute, Durgapur
THIS REPORT IS VALID UPTO: 31st August 2031

Annexure -I

FIELD PERFORMANCE RESULTS

- I. Attachment used : With triangular (3-T) blade assembly
 Place of test : CSIR-CMERI, Durgapur
 Usage : Perennial grass cutting

Sl No.	Parameters	Test Trails		
		I	II	III
1	Date of Test	22.08.2024	23.08.2024	26.08.2024
2	Net Test Duration	3.42	4.41	3.92
3	Type of Grass	Perennial Weed	Perennial Weed	Perennial Weed
4	Avg. height of Grass (cm)	550	590	520
5	Avg. No. of grass stem per sq.m	260	290	230
6	Mass of grass per sq.m (kg)	0.95	0.8	0.85
7	Avg. dia of Grass (mm)	1.35	1.3	1.38
8	Mass of grass harvesting (kg/h)	16.9	18.6	18.7
9	Rate of Work (ha/h)	0.073	0.062	0.077
10	Time required for 1 ha (h)	27.97	31.48	23.96
11	Fuel Consumption			
	-l/h	2.63	2.39	2.28
	-l/ha	73.66	77.22	59.88

Report prepared by

Report verified by