

प्रारंभिक व्यावसायिक परीक्षण रिपोर्ट
INITIAL COMMERCIAL TEST REPORT

संख्या/No. CSIR/CMERI/FMTTC/2023/012
माह/Month: August, 2023

THIS TEST REPORT VALID UP TO : 31st AUGUST, 2030



**GL35BC
BRUSH / WEED CUTTER**



कृषि मशीनरी प्रशिक्षण और परीक्षण केंद्र
Farm Machinery Training and Testing Centre
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1. SCOPE OF TEST

As such there is no specific Indian Standard test code available for testing of engine operated Brush Cutter. The test procedure was developed by the institute by using the relevant standard in agreement with the applicant.

The scope of test was to check and assess the followings: -

1.1 Laboratory Test

- Checking the specification and other data furnished by the applicant.
- Noise level measurement
- Mechanical vibration measurement
- Hardness & chemical analysis of critical components
- Wear analysis of critical components

1.2 Field test

- Rate of work
- Quality of work
- Labour requirement
- Adequacy of power of prime mover
- Ease of operation & adjustments
- Defects, breakdowns & repair

2. TEST CODE/PROCEDURE

The guidelines have been taken from the following.

- i. IS: 11467:198 : Test code for cereal harvesting machine.
- ii. IS: 4905: 2015 : Random Sampling and Randomisation procedure (First Revision).
- iii. IS: 6025:1982 : Specification for knife sections for harvesting machines
- iv. ISO: 22867 : Forestry and gardening machine vibration test code for portable hand-held machine which internal combustion engine-vibration at handles.
- v. ISO: 22868 : Forestry and gardening machinery noise test code for portable hand-held machine with internal combustion engine-engineering method (Grade 2 accuracy).

3. METHOD OF SELECTION

The test sample was randomly selected through Video call. The applicant arranged 5 samples of Engine Operated Brush Cutter – Model GL35BC with Same specifications. The Brush Cutter with following serial number were considered for random selection.

Sample No.	Brush Cutter Serial No.
1	00001
2	00002 (Selected for Test)
3	00003
4	00004
5	00005

4. SAFETY WEARS RECOMMENDED

- | | |
|----------------|---------------------|
| 1. Helmet | 2. Safety Glass |
| 3. Ear Plug | 4. Protective cloth |
| 5. Hand Gloves | 6. Safety Shoes |



5. SPECIFICATIONS

5.1 General

Name of Machine	: Brush Cutter
Type of machine	: Engine operated Brush Cutter
Name of manufacturer and address	: Siddharth Agro Industries 201, Shree Ram Plaza, Station Road, Patna – 800001 (Bihar)
Name of applicant and address	: Siddharth Agro Industries 201, Shree Ram Plaza, Station Road, Patna – 800001 (Bihar)
Make	: GALAXY
Model	: GL35BC
Country of origin	: China
Frame serial no.	: 2592658
Year of manufacturer	: 2023
Recommended use	: For cutting grass and weeds.

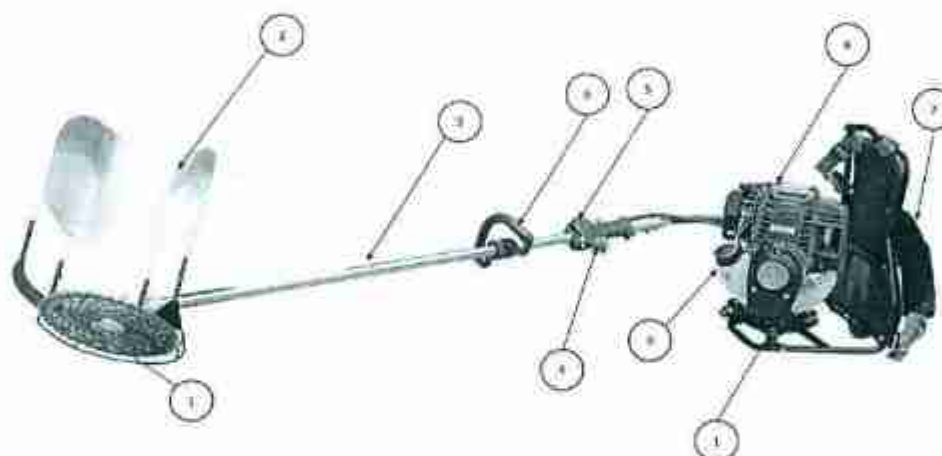


FIG. 1: SCHEMATIC VIEW OF BRUSH CUTTER

- | | | |
|-------------------------------------|--------------------|---------------|
| 1. Blade | 2. Grass deflector | 3. Frame pipe |
| 4. Throttle cum clutch lever switch | 5. Engine stopping | 6. RHS handle |
| 7. Hook for attaching shoulder belt | 8. Engine | 9. Fuel tank |
| 10. LHS handle. | | |

5.2 Details of prime mover

Manufacturer	: TOPWE Zhejiang TOPWE Tools Manufacturing Co. Ltd. Yongkang, Jinhua City, Zhejiang, China.
Make	: GX35
Model	: GL35BC
Type	: Air cooled, single cylinder 4 stroke spark ignition engine
Serial no	: 2582658
Year of manufacturer	: 2023
Country of origin	: China


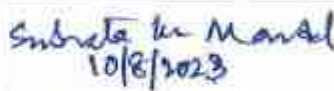
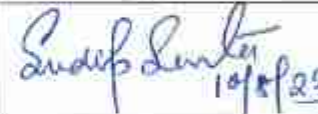


CSIR/CMERI/FMTTC/2023/012	SIDDHARTH AGRO INDUSTRIES PVT. LTD., GL35BC BRUSH CUTTER (INITIAL COMMERCIAL TEST)
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15. TECHNICAL LITERATURE

The operator, maintenance & parts manual of sprayer was provided during the test which found adequate, however, the manual should be updated as per IS: 8132:1999.

TESTING AUTHORITY

Report Prepared by	Sr. Technical Officer, CSIR-CMERI Farm Machinery Testing Centre	 10/08/2023
Report Verified by	Scientist, CSIR-CMERI Farm Machinery Testing Centre	 10/08/23
Report Approved by	In-Charge, CSIR-CMERI Farm Machinery Testing Centre	 10/8/2023
Report Approved for release by	Head, Business Innovation and Skill Group, CSIR-CMERI, Durgapur	 10/8/23

17. APPLICANT'S COMMENTS

Para No.	Our Reference	Applicant's Comments
17	14.1 – 14.6	Noted and will be rectify as per your recommendations



FIELD PERFORMANCE RESULTS

- II. Attachment used: With Nylon Rope Assembly
 Place of test : CSIR-CMERI, Durgapur
 Usage : Seasonal grass cutting

Sl No.	Parameters	Test Trails		
		I	II	III
1	Date of Test	26.06.2023	27.06.2023	28.06.2023
2	Net Test Duration	3.80	3.42	4.25
3	Type of Grass	Seasonal Grass	Seasonal Grass	Seasonal Grass
4	Avg. height of Grass (cm)	16.3	16.9	17.5
5	Avg. No. of grass stem	431	649	542
6	Mass of grass per sq.m (kg)	0.71	0.82	0.69
7	Avg. dia of Grass (mm)	1.2	1.3	1.1
8	Mass of grass harvesting (kg/h)	10.4	13.02	12.01
9	Rate of Work (ha/h)	0.078	0.070	0.074
10	Time required for 1 ha (h)	25.52	28.49	27.12
11	Fuel Consumption			
	-l/h	0.67	0.63	0.70
	-l/ha	17.18	17.97	18.94



FIELD PERFORMANCE RESULTS

III. Attachment used: With 60 Teeth (Circular Blade)

Place of test : CSIR-CMERI, Durgapur

Usage : Seasonal Grass cutting

Sl No.	Parameters	Test Trails		
		I	II	III
1	Date of Test	03.07.2023	04.07.2023	05.07.2023
2	Net Test Duration	3.28	1.75	2.83
3	Type of Grass	Seasonal Grass	Seasonal Grass	Seasonal Grass
4	Avg. height of Grass (cm)	16.3	17.0	19.0
5	Avg. No. of grass stem	649	532	741
6	Mass of grass per sq.m (kg)	0.52	0.61	0.41
7	Avg. dia of Grass (mm)	1.1	1.2	1.1
8	Mass of grass harvesting (kg/h)	13.2	15.3	11.1
9	Rate of Work (ha/h)	0.062	0.055	0.057
10	Time required for 1 ha (h)	32.28	36.25	35.75
11	Fuel Consumption			
	-l/h	0.83	0.92	1.03
	-l/ha	26.94	33.24	36.91

Annexure - II

DETAILS OF OPERATOR

PARAMETERS

Age (Year) :
Height (cm) :
Weight (kg) :

OPERATOR

45
172
71

