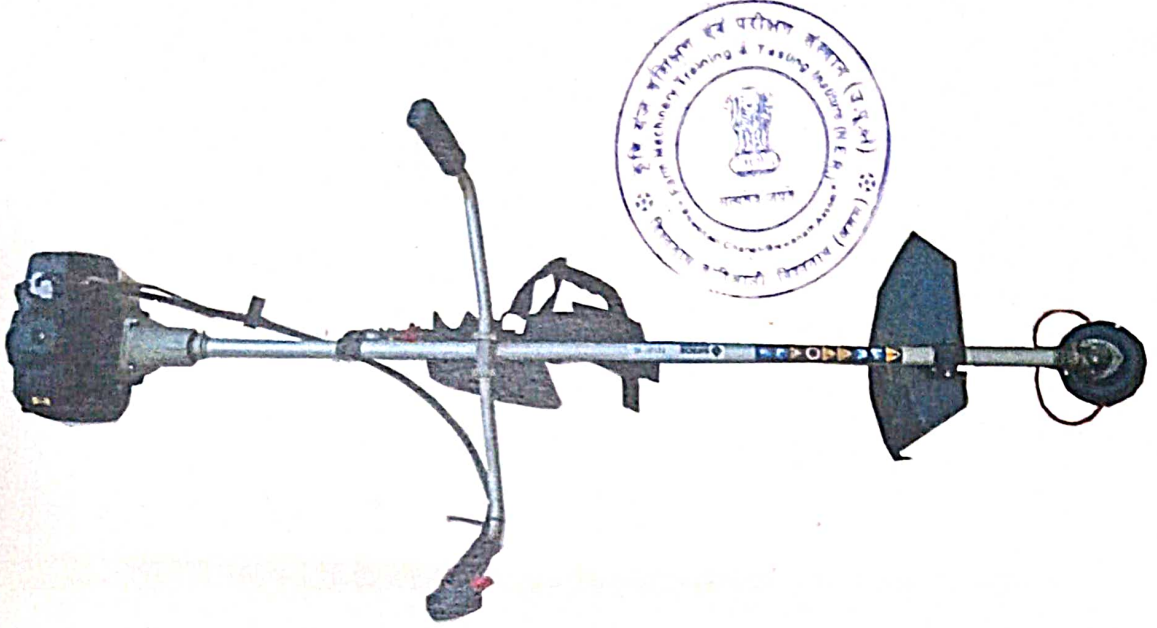




THIS TEST REPORT VALID UPTO 31/03/2026



SHRACHI BRUSH CUTTER, Model: SRBCCG520-HB



भारत सरकार  
GOVT OF INDIA

कृषि एवं किसान कल्याण मन्त्रालय

MINISTRY OF AGRICULTURE & FARMERS WELFARE

कृषि, सहकारिता एवं किसान कल्याण विभाग

DEPARTMENT OF AGRICULTURE, COOPERATION & FARMERS WELFARE

उत्तर पूर्वी क्षेत्र कृषि यंत्र प्रशिक्षण एवं परीक्षण संस्थान

NORTH EASTERN REGION FARM MACHINERY TRAINING & TESTING INSTITUTE

विश्वनाथ चारिआलि, जिला-विश्वनाथ(असम)

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**1. SCOPE OF TEST****1.1 LABORATORY TEST**

- a) Checking of specification
- b) Mechanical vibration measurement
- c) Noise measurement
- d) Engine performance test

5.2

**1.2 FIELD TEST**

- a) Rate of work
- b) Quality of work
- c) Labour requirement
- d) Adequacy of power of prime mover
- e) Ease of operation, adjustment & safety provisions
- f) Defects, breakdowns and repairs

**2. METHOD OF SELECTION**

The machine was directly submitted by the applicant for test at this institute. Hence method selection was not known.

**3. TEST CODE AND PROCEDURE**

There is no Indian Standard Test Code available for testing of brush cutter as such. For engine performance test, IS 7347-1974 was referred.

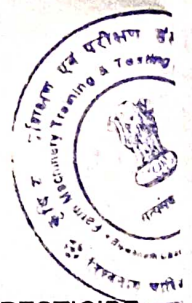
**4. SAFETY WEARS**

The following safety wears have been provided as essential to be used during operation of this machine.

- a) Hand gloves
- b) Safety glass (goggles)
- c) Protective cloth

**5. SPECIFICATIONS****5.1 General:**

Name of the Machine	:	Brush Cutter
Name and address of the manufacturer	:	M/s SHANDONG HUASHENG PESTICIDE MACHINERY Co. LTD., No. 1 Zhongtian Road, Hi-Tech Industrial Development Zone, Linyi City Shandong, 276017, China
Name & Address of Applicant/Importer	:	M/s BTL EPC LTD. (AGRO DIVISION) 2, Jessore Road, Dum Dum, Kolkata- 700028, West Bengal, India
Make	:	M/s SHANDONG HUASHENG PESTICIDE MACHINERY Co. LTD.
Model	:	SRBCCG520-HB
Serial no. (apa)	:	NA



Type	: Engine operated machine
Type of cutting attachment	: Nylon rope
Year of manufacture(apa)	: 2017
Country of origin	: China
Suitability (apa)	: Cutting of weeds, bushes, grasses

## 5.2 Constructional details :

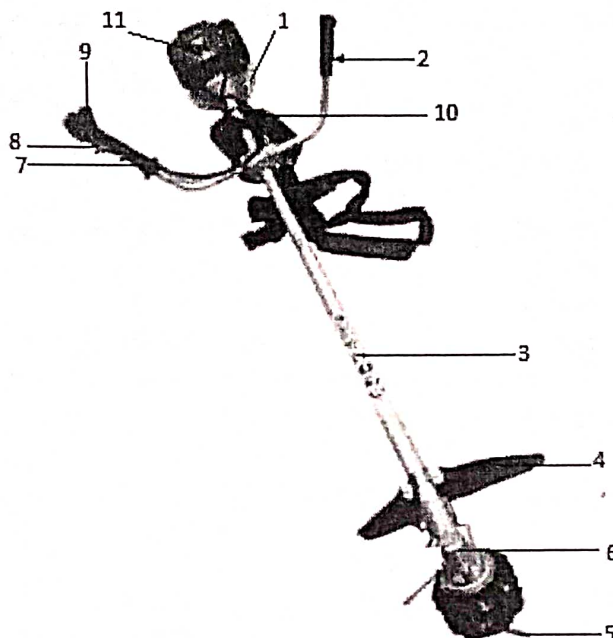


Fig. 1 : SHRACHI BRUSH CUTTER

### Keywords:

- |               |                                |
|---------------|--------------------------------|
| 1. Fuel tank  | 7. RHS handle                  |
| 2. LHS handle | 8. Throttle cum clutch trigger |
| 3. Frame pipe | 9. Engine stopping switch      |
| 4. Deflector  | 10. Hook                       |
| 5. Blade      | 11. Engine                     |
| 6. Gear case  |                                |

## 5.3 Details of Prime Mover :

Make	: M/s SHANDONG HUASHENG PESTICIDE MACHINERY Co. LTD., No. 1 Zhongtian Road, Hi-Tech Industrial Development Zone, Linyi City, Shandong, 276017, China
Model (apa)	: HB52
Type	: Single cylinder, two stroke, air cooled, petrol engine
Serial no.	: 18B01Y0278I2
Year of manufacture(apa)	: 2017
Country of origin	: China
Recommended high idle speed, rpm	: 9000 ± 100
Recommended low idle speed, rpm	: 3000 ± 100
Recommended rated speed, rpm	: 6500
Engine rated power observed, kW	: 0.53

**11. FIELD PERFORMANCE TEST**

The Brush cutter was operated for total 25.9 hours with nylon rope as cutting element. Detailed of field tests have been shown in ANNEXURE-I and summarized in ensuing table. Details at operator have been shown in ANNEXURE-II.

**SUMMARY OF FIELD PERFORMANCE TEST**

S. No.	Parameters	
1.	Average number of grass/weeds in one m <sup>2</sup>	561 to 1370
2.	Average height of grass/weeds, cm	12.8 to 19.8
3.	Mass of grass/weed cut, kg/h	50.41 to 71.68
4.	Average speed of operation, km/h	0.230 to 0.282
5.	Rate of work, ha/h	0.032 to 0.052
6.	Time required for one hectare, h	19.31 to 30.96
7.	<b>Fuel consumption:</b>	
	-l/h	1.259 to 1.44
	-l/ha	26.14 to 41.14

**11.1 Rate of work**

- The rate of work was recorded as 0.032 to 0.052 ha/h with speed of operation 0.230 to 0.282 kmph.
- The time required to cover one hectare was recorded as 19.31 to 30.96 hours.

**11.2 Quality of work**

Mass of grass/weed cut was observed as 50.41 to 71.68 kg/h.

**11.3 Fuel consumption**

Fuel consumption was observed as 1.259 to 1.44 l/h and 26.14 to 41.14 l/ha.

**11.4 Labour requirement:**

An averagely built person can able to operate the brush cutter for forty minutes at a stretch. Her operators are required for continuous operation.

**11.5 Adequacy of power of prime mover :**

The power of prime mover was found adequate.

**12. EASE OF OPERATION, ADJUSTMENTS & SAFETY PROVISION**

- Fatigue was observed just after 40 minutes of operation of the Brush Cutter, mainly, due to mechanical vibration. The operator complained about pain in different parts of his body like wrist, shoulder, right side thigh, etc. during operation.

**13. DEFECTS, BREAKDOWNS AND REPAIRS**

No major breakdown was occurred during 25.9h of field operation.

**14.2 Transmission system:**

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

**15. COMMENTS & RECOMMENDATIONS**

- 15.1** Noise at operator's ear level and bystander's level was observed on higher side against danger limits of 90 db(A) as specified by ILO for continuous exposure of 8 hours per day. This calls for reduction in noise level to improve the operational comfort and safety.
- 15.2** The amplitude of mechanical vibration at various assemblies viz. steering handle, engine cover and frame pipe is on higher side. This calls for dampening down of vibration to improve the operational comfort and service life of the components.
- 15.3** The specific fuel consumption as observed during engine test was exceeding by more than 5 percent as declared by the applicant which does not fulfil the requirement of IS 7347-1974. This should be looked into for corrective action.
- 15.4** However, high idle speed (rpm) has been mentioned as  $9000 \pm 100$  by the manufacture. But during engine test on dynamometer high idle speed (rpm) achieved only  $8000 \pm 100$  and beyond this rpm, the engine tends to fluctuate rapidly. Therefore the engine test start at  $8000 \pm 100$  rpm.
- 15.5** Sudden stoppage of engine was observed during field operation. This should be looked into for improvement.
- 15.6** During testing, Goggles and hand gloves were provided as safety devices. However, other safety devices viz. helmet, ear plug, mask, safety shoes etc. should necessarily be provided for the safety of operator.
- 15.7** No labeling plate indicating Year of manufacture, Power of prime mover, Specific fuel consumption, Rated speed of engine, Speed of cutting attachment, etc. has been provided on the machine. This may be looked into for necessary corrective action.
- 15.8 Adequacy of Literature**

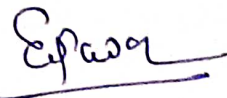
The following literatures covered with English was provided for reference during testing:

- Instruction 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)  
AGRICULTURAL ENGINEER



(S.G. PAWAR)  
AGRICULTURAL ENGINEER



(J.P. MANDAL)  
Sr. AGRICULTURAL ENGINEER



K.K. NAGLE  
DIRECTOR



**16. APPLICANT'S COMMENTS**

Para no.	Our Reference	Comments
16.1	15.1	We would discuss the same issue with the manufacturer to improve on the same point.
16.2	15.2	We would discuss the same issue with the manufacturer to dampening down the vibration with required measures.
16.3	15.3	We should look into the same.
16.4	15.4	We will keep same point noted, and as a future reference for high idle speed (rpm) declaration.
16.5	15.5	We would look into the same for improvement.
16.6	15.6	We have noted the same, and this should be looked into in future.
16.7	15.7	We have noted the same recommendation.
16.8	15.8	We have noted the same recommendation.

