



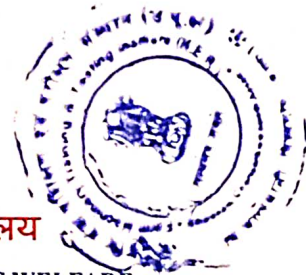
THIS TEST REPORT IS VALID UPTO 31.08.2027



KK-SBC-3404 KISANKRAFT BRUSH CUTTER



भारत सरकार
GOVT OF INDIA



कृषि एवं किसान कल्याण मंत्रालय

MINISTRY OF AGRICULTURE & FARMERS WELFARE

कृषि एवं किसान कल्याण विभाग

DEPARTMENT OF AGRICULTURE AND FARMERS WELFARE

उत्तर पूर्वी क्षेत्र कृषि यंत्र प्रशिक्षण एवं परीक्षण संस्थान

NORTH EASTERN REGION FARM MACHINERY TRAINING & TESTING INSTITUTE

विश्वनाथ चारिआलि, जिला-विश्वनाथ (असम)

BISWANATH CHARIALI: BISWANATH: ASSAM, PIN - 784 176

[AN ISO 9001:2015 CERTIFIED INSTITUTION]

1. SCOPE OF TEST

1.1 LABORATORY TEST

- a) Checking of specifications
- b) Mechanical vibration measurement
- c) Noise measurement
- d) Wear assessment of critical components
- e) Engine performance test

1.2 FIELD TEST

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

2. METHOD OF SELECTION

As per Govt. of India, OM No. 13-1/2021-M&T (I&P), dated 03.02.2022, the random selection was exempted. Hence, the machine was directly submitted by the applicant at this Institute for test.

3. TEST CODE AND PROCEDURE

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

4. SPECIFICATIONS

4.1 General

Name of the Machine	: Brush Cutter
Name and address of the manufacturer	: M/s Shandong Huasheng Pesticides Machinery CO. Ltd., China
Name & Address of Applicant	: M/s KisanKraft Limited, Sri Huchhanna Tower, No. 4, 1 st Main, 7-A Cross, Muruthi Layout, Dasarahalli, HAF Post, Hebbal, Bengaluru, Karnataka, India-560024
Model	: KK-SBC-3404

Serial No.	: Not Provided
Type	: Shoulder Mounted Engine operated
Type of cutting attachment	: Nylon rope, straight blade
Year of manufacture	: Not Specified
Country of origin	: CHINA
Type of crops/bush recommended	: All kinds of weeds.

4.2 Constructional details :

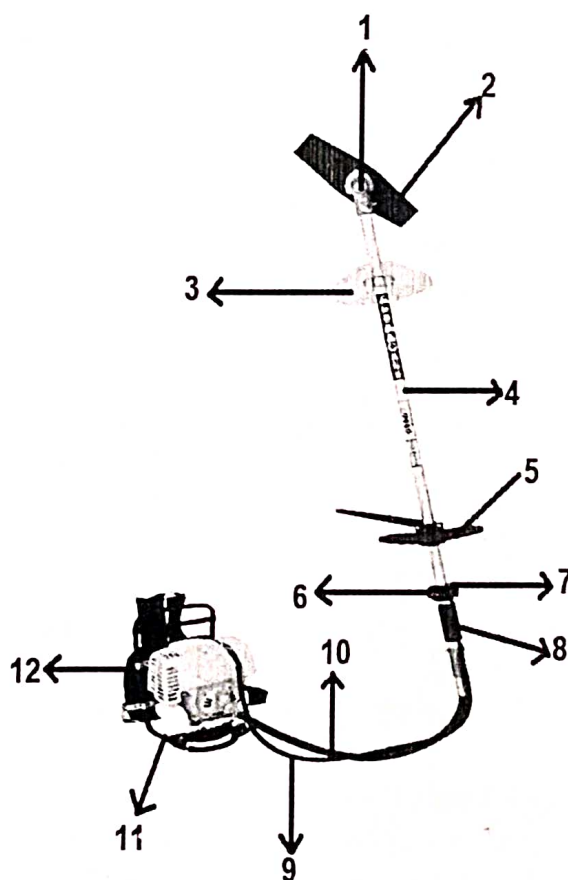


Fig. 1: KISANKRAFT BRUSH CUTTER, MODEL: KK-SBC-3404

Keywords:

- | | |
|-----------------------------|---------------------------------|
| 1. Gear case | 7. Throttle cum clutch trigger |
| 2. Blade cutting attachment | 8. Handle grip |
| 3. Deflector | 9. Accelerator cable |
| 4. Transmission cover pipe | 10. Flexible drive shaft cover |
| 5. Handle grip | 11. Engine mounting stand |
| 6. Engine stopping switch | 12. Cushion for operator's back |

Machine 66/437	KK-SBC-3404 KISANKRAFT BRUSH CUTTER	COMMERCIAL (INITIAL)
----------------	-------------------------------------	-------------------------

10.2 Chemical composition of Straight Blade:

The results of chemical analysis test of straight blade were as under.

Constituent	As per IS: 6025 – 1982 (%)	Composition As observed (% by weight)	Remarks
Carbon (C)	0.70 to 0.95	0.417	Does not Conform
Manganese (Mn)	0.3 to 0.5	0.768	Does not Conform
Silicon (Si)	---	0.253	---
Sulphur (S)	---	0.012	---
Phosphorous (P)	---	0.016	---

11. WEAR ANALYSIS OF CRITICAL COMPONENTS

Component	Duration of operation (h)	Initial mass (g)	Mass after operation (g)	Loss of mass (g)	Percentage of wear	Percentage of wear on hourly basis
Straight blade	10.22	268.88	265.00	3.88	1.44	0.14

12. FIELD PERFORMANCE TEST

Field tests were conducted for total of 25.95 hours duration. Grass/weeds cutting with nylon rope and bush cutting using straight blade attachments were carried out for 15.73 hours and 10.22 hours, respectively. A total of five test trials were conducted at rated speed of 7000±100 rpm. Detailed results of field tests are shown in ANNEXURE-I & III and summarized in the ensuing table. Details of the operator have been given in ANNEXURE-III.

SUMMARY OF FIELD PERFORMANCE TEST

Sl. No.	Parameters	Bush cutting	Grass/weeds cutting	
1	Field Condition	Level		
2	Thickness of Grasses/Bush, mm	9.40 to 9.97	1.73 to 2.54	
3	Average number of Grass/Bush in 1m ²	16.0 to 25.0	158 to 202	
4	Average height of Grasses/Bush (mm)	1240 to 1760	234 to 284	
5	Mass of Grass/Bush (kg/h)	430.58 to 782.47	97.69 to 206.14	
6	Mass of Grass/Bush (kg/ha)	13288 to 23928	3392 to 7316	
7	Rate of work (ha/h)	0.032 to 0.033	0.027 to 0.029	
8	Time required for one hectare (h)	30.58 to 30.86	34.72 to 36.63	
9	Fuel consumption			
		-l/h	0.325 to 0.366	0.292 to 0.335
		-l/ha	10.02 to 11.19	10.36 to 11.94

15.2 Transmission system:

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

16. COMMENTS & RECOMMENDATIONS

- 16.1** The average rated power in rating test of engine was observed as 0.53 kW against declared value of 0.80 kW by the manufacturer. This should be looked into for corrective action.
- 16.2** It was observed that engine was not getting started while engine performance test. On request of the applicant, carburetor, ignition coil & spark plug were changed before engine performance test. This shall be looked into for improvement.
- 16.3** It was observed that during engine performance test engine oil was leaked from air cleaner assembly. This shall be looked into for corrective action.
- 16.4** Noise at operator's ear 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.
- 16.5** The amplitude of mechanical vibration at various assemblies viz. steering handle, engine cover and drive shaft cover pipe was on higher side. This calls for dampening down of vibration to improve the operational comfort and service life of the components.
- 16.6** The Hardness & Chemical composition of straight blade does not conform to Indian Standard IS 6025:1982. This should be looked into for corrective action.
- 16.7** The mentioned value of rated power and rated rpm of engine on the labeling sticker of the machine was not matching with the observed value during engine test. This may be looked into.
- 16.8** As a safety wear only goggles (safety glass) were provided with the machine. The applicant has strictly advised to provide the safety kit viz. helmet, hand gloves, ear plug, mask, safety shoes etc. along with each machine for the safety of operator.
- 16.9** Name plate/ labeling plate should be provided on the machine at suitable place as per Indian Standard.
- 16.10** The name of the machine has been mentioned wrongly on the labeling sticker of the machine. This should be looked into for corrective action.

16.11 The engine was not marked with Manufacturer name or trade-mark, Serial No of engine, 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.

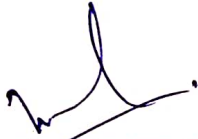
16.12 **Adequacy of Literature**

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

- Operator's/ Service manual
- Parts catalogue

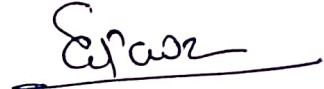
It is recommended to bring out the manual in Hindi and other vernacular languages as per IS: 8132-1999.

TESTING AUTHORITY



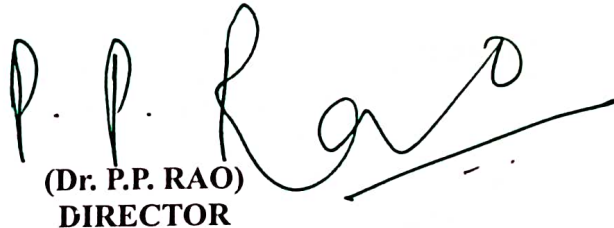
(M.R. PATIL)

AGRICULTURAL ENGINEER



(S.G. PAWAR)

AGRICULTURAL ENGINEER



(Dr. P.P. RAO)
DIRECTOR

Draft test report compiled by - **Shri Khagendra Bora**
Sr. Technical Assistant

17. APPLICANT'S COMMENTS

Sl. No.	Clause No.	Applicants Comments
17.1	16.1 to 16.12	We will take corrective action against the same.