

व्यावसायिक परीक्षण रिपोर्ट बैच  
COMMERCIAL TEST REPORT (Batch)



संख्या / No.: Machine 46/410  
माह / Month: December, 2021

THIS TEST REPORT VALID UPTO 31/12/2026



KISANKRAFT, Model: KK-BC-8640  
[BRUSH CUTTER]



सत्यमेव जयते

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

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**1. SCOPE OF TEST**

The scope of test was limited to check and assess the following:

**1.1 Laboratory test**

- a) Checking of specification & other data furnished by the applicants
- b) Mechanical vibration measurement
- c) Noise measurement
- d) Engine performance test
- e) Wear analysis of critical components
- f) Hardness & Chemical analysis of Blade/critical components

**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**

As per Govt. of India, OM No. 13-13/2020-M&T (I&P) dated 27<sup>th</sup> July 2021 the random selection was exempted. Hence, the machine was directly submitted by the applicant at this Institute for test.

**3. TEST PROCEDURE**

There is no Indian Standard Test Code available for testing of Brush cutter as such. The guidelines, however, have been taken from the following:

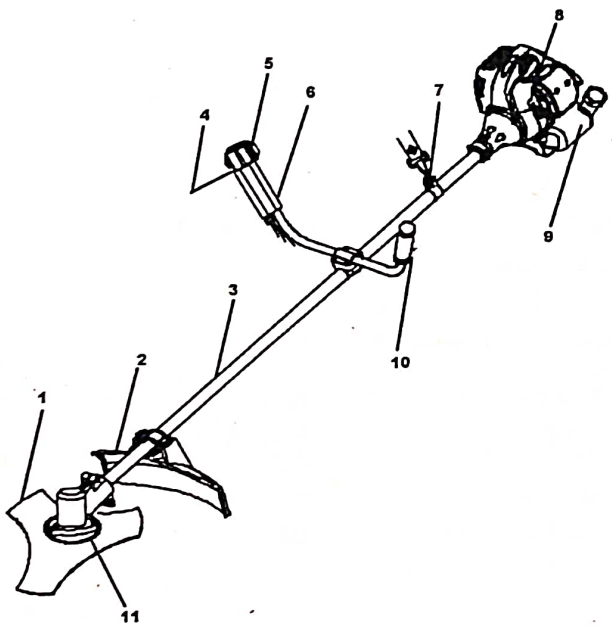
- i) IS: 7347:1974 (Reaffirmed 2006) : Specification for Performance of Small Size Spark Ignition Engines.
- ii) IS: 6025 – 1982 : Specification for knife sections for harvesting machines

**4. SPECIFICATIONS****4.1 General:**

	Previous Sample	Present Sample
Name of Machine	: Power weeder/Brush cutter	Brush Cutter
Type of Machine	: Power operated	Engine operated
Manufacturer	: M/s Shandong Huasheng Pesticides Machinery CO. Ltd., China	M/s Shandong Huasheng Pesticides Machinery CO. Ltd., China
Make	: KisanKraft	KisanKraft
Model	: KK-BC-8640	KK-BC-8640
Country of origin	: China	China

<b>MACHINE 46/410</b>	<b>KISANKRAFT BRUSH CUTTER, Model :- KK-BC-8640 COMMERCIAL (Batch)</b>
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Frame Serial no.	: Not Provided	Not Provided
Year of manufacture, apa	: Not Specified	2020
Name & Address of Applicant	: M/s KisanKraft Machine Tools Pvt. Ltd., 32/5C, Dasarahalli Village, Dasarahalli Main Road, H.A. Farm Post, Hebbal, Bangalore-560024	M/S KisanKraft limited, (Formerly known as KisanKraft Tolls (P) Ltd, Sri Huchhanna Tower #4, 1 <sup>st</sup> Main, 7-A Cross, Muruthi Layout, Dasarahalli, HAF Post, Hebbal, Bangaluru, Karnataka, India-560024
Type of weeds/brush recommended	: All kinds of weeds/brushes	All types of weeds/brushes



**FIG. 1: Schematic view of KisanKraft BrushCutter (KK-BC-8640)**

**KEY WORDS:**

- |                                     |                              |
|-------------------------------------|------------------------------|
| 1. Blade                            | 2. Grass deflector           |
| 3. Frame-pipe                       | 4. Throttle cum clutch lever |
| 5. Engine stopping switch           | 6. RHS handle                |
| 7. Hook for attaching shoulder belt | 8. Engine                    |
| 9. Fuel tank                        | 10. LHS handle               |
| 11. Gear case                       |                              |

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### 11. FIELD PERFORMANCE TEST

Field tests were conducted for 25.18 hours duration, grass cutting with nylon rope and brush cutting using 3 T blade attachments were carried out for 10.02 hours, and 15.16 hours respectively. A total of six test trials were conducted. Rated engine speed was observed as 6600rpm. Detailed results of field tests are shown in ANNEXURE-I & II; and summarized in the ensuing table.

#### SUMMARY OF FIELD PERFORMANCE TEST

Sl. No.	Parameters	Grass cutting	Brush cutting
1	Field Condition	Level	
2	Thickness of Grasses/Brush	1.39 to 1.42	9.74 to 10.95
3	Average number of weeds in 1m <sup>2</sup> Grass/Brush	408 to 440	33 to 40
4	Average height of Grasses/Brush (mm)	325.8 to 448.0	747 to 2275.0
5	Mass of Grass/Brush (kg/h)	135.84 to 139.97	880.1 to 1042.5
6	Mass of Grass/Brush (kg/ha)	4006 to 4230	27160 to 32264
7	Rate of work (ha/h)	0.033 to 0.0339	0.0323 to 0.0324
8	Time required for one hectare (h)	29.49 to 30.22	30.86 to 30.95
9	Fuel consumption		
	-l/h	1.593 to 1.633	1.26 to 1.315
	-l/ha	46.97 to 48.44	39.02 to 40.11

#### 11.1 Grass cutting using nylon rope

##### 11.1.1 Rate of work

- The rate of work was recorded as 0.033 to 0.0339ha/h,
- The time required to cover one hectare was recorded as 29.49 to 30.22 h.
- Mass of grass cut was recorded as 135.84 to 139.97 kg/h.

##### 11.1.2 Fuel consumption

- Fuel consumption was observed as 1.593 to 1.633 l/h and 46.97 to 48.44 l/ha.

#### 11.2 Brush cutting using 3-T blade

##### 11.2.1 Rate of work

- The rate of work was recorded as 0.0323 to 0.0324 ha/h,
- The time required to cover one hectare was recorded as 30.86 to 30.95 h.
- Mass of weed cut was observed as 880.1 to 1042.5 kg/h

##### 11.2.2 Fuel consumption

- Fuel consumption was observed as 1.26 to 1.315 l/h and 39.02 to 40.11 l/ha.

#### 11.3 Labour requirement

One skilled operator can operate the machine continuously for about half an hour only. Hence, two skilled operators are required to operate the machine continuously.

#### 11.4 Adequacy of power of prime mover

The power of prime mover was found adequate.



**14.4 Ring side clearance:**

Rings	Ring side clearance, mm	Max. permissible clearance limit, mm
1 <sup>st</sup> comp. ring	0.06	Not specified
2 <sup>nd</sup> comp. ring	0.05	
Oil ring	*	Not specified

\*not recorded due to ring design constraints

**14.5 Main bearings:**

Bearing No.	Type of bearing	Diametrical clearance, mm	Crankshaft end float, mm	Max. permissible clearance limit, mm	
				Diametrical clearance	Crankshaft end float
1	Ball bearing	NA	0.25	Not specified	--
2	Ball bearing	NA			

**14.6 Big end bearing:**

Bearing No.	Clearance, mm		Max. permissible clearance limit, mm	
	Diametrical	Axial	Diametrical	Axial
1	Needle bearing	--	Not specified	--

Measurement of big end bearing clearance was not possible as the piston along with connecting rod was not detachable.

**14.7 Transmission system:**

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

**15. COMMENTS & RECOMMENDATIONS**

- 15.1** The average rated power in rating test of engine was observed as 0.66 kW against manufacturers declared power as 1.14 kW. This should be looked into metter.
- Governing test**  
Momentary speed change in percentage of rated speed was observed as 36.53 %. This should be looked into metter.  
Permenent speed change in percentage of rated speed was observed as 34.60 %. This should be looked into metter
- 15.2** The specific fuel consumption at average rated power in rating test was observed as 1748 g/kWh. against 610 g/kWh. this should be looked into metter.
- 15.3** Noise at operator's ear level was observed on higher side against warning limit of 85 dB (A) as specified by ILO for continuous exposure of 8 hours per day. **This calls for reduction in noise level to improve the operator's comfort & safety**
- 15.4** The amplitude of mechanical vibration marked as (\*) is on drastically higher side and is directly concerned with operator's health, safety and comfort. Besides, it is also adversely affect the useful life of the component in view of above this deserves to be given top priority for corrective action.
- 15.5** It was observed that the fuel tank capacity of this machine is low. This should be looked into metter.

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- 15.6 During field testing, No Goggles and ear plugs were provided as protective devices. All the necessary protective accessories, arm cover, gloves, leg protector, face shield, helmet, etc was not provided. All these should necessarily be provided for the safety of operator.
- 15.7 The Hardness & chemical composition of 3T blade does not conform to relevant Indian Standard. This should be looked into.
- 15.8 Trimmer Tap and go breakdown was observed during the field testing. This should be looked into matter.
- 15.9 The fuel on/off knob may be provided in machine.
- 15.10 No labelling plate is riveted/bolted on the machine. This may be looked into for necessary corrective action.
- 15.11 **Technical Literature:**  
Operator cum Service Manual & Parts Catalogue was provided along with the machine during the course of testing. It is further recommended to bring out these manuals 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)

SENIOR AGRICULTURAL ENGINEER

(K.K. NAGLE)

DIRECTOR

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

**16. APPLICANT'S COMMENTS**

Para no	Our reference no	Applicants Comments
16.1	15.1 to 15.10	We will check this again and will take the corrective action against the same.