



Honda UMK 435T UEDT, Brush Cutter



सत्यमेव जयते

भारत सरकार  
GOVT OF INDIA

कृषि मन्त्रालय

MINISTRY OF AGRICULTURE

कृषि एवं सहकारिता विभाग

DEPARTMENT OF AGRICULTURE AND COOPERATION

उत्तर पूर्वी क्षेत्र कृषि यंत्र प्रशिक्षण एवं परीक्षण संस्थान

NORTH EASTERN REGION FARM MACHINERY TRAINING & TESTING INSTITUTE

विश्वनाथ चारिआलि, जिला-शोणितपुर (असम)

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**1. SCOPE OF TEST**

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

**1.1 Laboratory test**

- Checking the specification and other data furnished by the applicant
- Noise 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 operation & adjustments
- Defects, Breakdowns & Repair

**2. METHOD OF SELECTION**

The test sample was submitted directly to this Institute by the applicant. Hence, the method of selection is not known.

**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: 11467 - 1985 : Test code for cereal harvesting machine
- ii) IS: 6025 - 1982 : Specification for knife sections for harvesting machines

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

- Name of Machine : Brush Cutter
- Type of Machine : Power Operated
- Manufacturer : M/S Thai Honda Manufacturing Co. Ltd.  
410 Ladkrabang Industrial Estate  
Gh – Alongkrung Road, Lamplatu  
Landkrabang, Thailand
- Make : Honda
- Model : UMK 435T UEDT
- Country of origin : Thailand
- Name & Address of Applicant : M/S Honda Siel Power Products Ltd.  
Plot No. – 5, Sector – 41 (Kasna),  
Greater Noida Industrial Development Area,  
Dist.-Gautam Budh Nagar(U.P.)-201 306



Types of crop recommended : Brush & weeds (grasses)  
 Type of weeds / brush : Grassy weeds, outgrowth twines climbers.  
 recommended

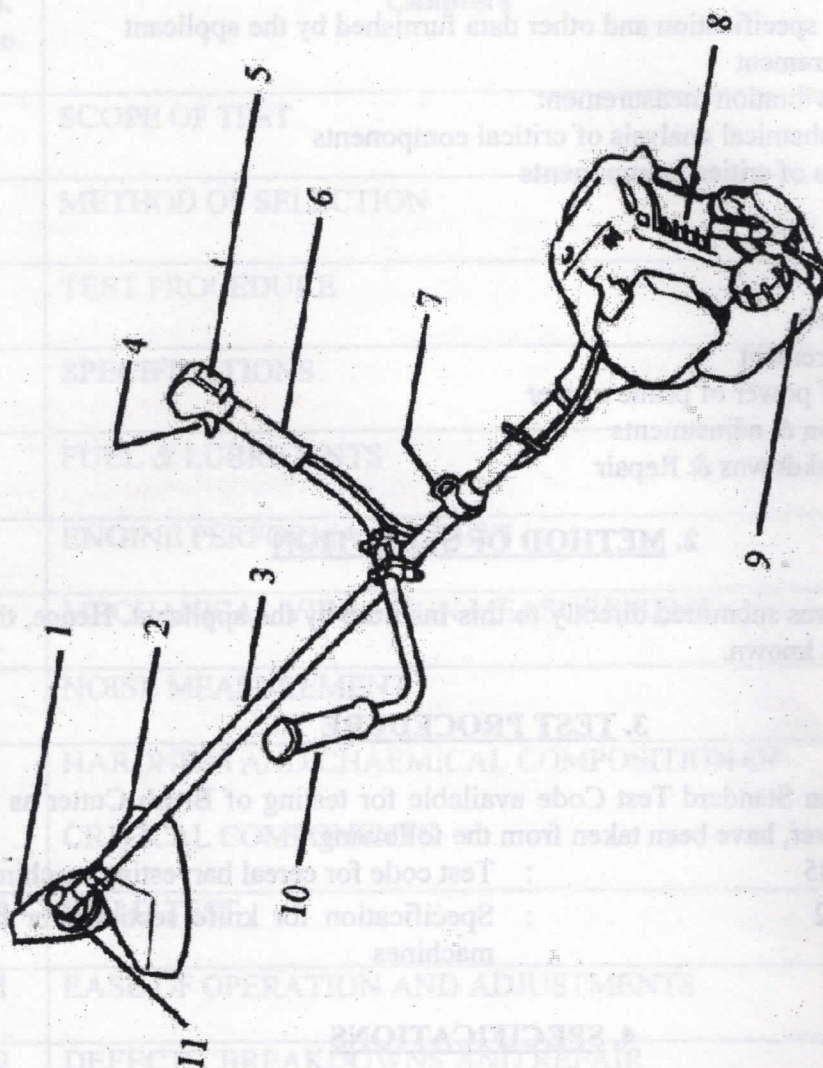


FIG. 1: Schematic view of Honda UMK435T UEDT Brush cutter

**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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- 10.5.2 After about 2.5 hours of operation, a new rope (5 m length) is required to be installed.

### **11. EASE OF OPERATION & ADJUSTMENTS**

Fatigue was observed just after half an hour of operation of the Brush Cutter, mainly, due to excessive mechanical vibration and noise. The operator complained about pain in different parts of his body like wrist, shoulder and right side thigh, etc during operation.

Work-rest cycle for an average operator during grasses / brushes with nylon rope / 3-T blade as follows:

35 minutes work → 10 minutes rest → 25 minutes work → 15 minutes rest → 25 minutes work → 15 minutes rest → 15 minutes work → so on.

### **12. DEFECTS, BREAKDOWNS AND REPAIR**

No any breakdowns were observed during 20.30 hours of field operation.

### **13. COMMENTS & RECOMMENDATIONS**

- 13.1 Noise at Bystander's position and Operator's ear level was observed as 91 dB (A) and 108 dB (A) respectively which is on very higher side against warning and danger limits of 85 dB (A) and 90 dB (A) for Bystander's position and Operator's ear level respectively 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.
- 13.2 The amplitude of mechanical vibration on various assemblies of the machine is observed on very higher side. This calls for dampening down of vibration to improve the operational comfort and service life of components.
- 13.3 During testing, only Goggles and ear plugs were provided as protective devices. All the necessary protective accessories, as mentioned in the Owner's manual, like arm cover, gloves, leg protector, face shield, helmet, etc was not provided. All these should necessarily be provided for the safety of operator.
- 13.4 No labeling plate provided on the machine. It should be provided along with following informations, like indicating Year of manufacture, Power of prime mover, Specific fuel consumption, Rated speed of engine, Speed of cutting attachment, etc. Hence This may be looked into for necessary corrective action.



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**13.5 Technical Literature**

The following literatures were provided for reference during testing:

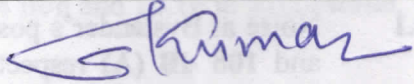
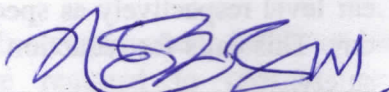
- Owner's manual
- Shop manual
- Parts catalogue

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

**14. APPLICANT'S COMMENTS**

The applicant has no comments on the machine.

**TESTING AUTHORITY**

SANJAY KUMAR AGRIL. ENGINEER	
M. K. VISHWAKARMA DIRECTOR	

Test conducted and data compiled by - Shri Anshul Pandey, STA (Inst.)

Shri P.C. Dihingia, Instructor

Component	Number of	Initial	Final	Loss	%	Loss	%
	quantity	(g/gram)	(g/gram)	(g/gram)	loss	(g/gram)	loss
Wear	15.01	5.177	5.044	0.133	2.56	0.133	2.56