

व्यावसायिक परीक्षण रिपोर्ट (प्रारंभिक)
COMMERCIAL TEST REPORT
(Initial)



संख्या/No.: MISC/NERFMTTI, B. Chariali/
06/06/554
माह / Month: November 2025

THIS TEST REPORT IS VALID UPTO 30.11.2032



CCK, CCK-GX35-S, BRUSH CUTTER



सत्यमेव जयते

भारत सरकार

GOVERNMENT OF INDIA

कृषि एवं किसान कल्याण मंत्रालय

MINISTRY OF AGRICULTURE AND FARMERS WELFARE

कृषि एवं किसान कल्याण विभाग

DEPARTMENT OF AGRICULTURE AND FARMERS WELFARE

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NORTH EASTERN REGION FARM MACHINERY TRAINING & TESTING INSTITUTE

बिश्वनाथ चारिआलि, जिला - बिश्वनाथ(असम)

BISWANATH CHARIALI, DIST- BISWANATH, ASSAM, PIN - 784 176

[AN ISO 9001:2015 CERTIFIED INSTITUTION]

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Type of test

: Commercial (Initial)

Period of test

: October 2025 to November 2025

Test Report No.

: MISC/NERFMFTTI, B. Chariali/06/06/554

This Test Report is Valid Up to

: 30/11/2032

Month / Year of report release

: November 2025

1. The results reported in this report are observed values and no corrections have been applied for atmospheric and site conditions.
2. The data given in the Test Report pertain to the particular machine randomly selected for test by the testing authority.
3. The results presented in this report do not in any way attribute to the durability of the machine.
4. The results should not be reproduced in part or full without the prior permission of the Director, North Eastern Region Farm Machinery Training & Testing Institute, Biswanath Chariali, Dist. - Biswanath (Assam) – 784 176.
5. This test report is valid up to 30.11.2032 as per Ministry's O.M. No.13-22/2020-M&T (I&P) dated 12.12.2023.

SELECTED CONVERSIONS			ABBREVIATIONS	
Sr. No.	Units	Conversion Factor	Full form	Symbols
1	Force		As per applicant	apa
	1 kgf	9.80665 N	Average	Av.
		2.20462 lbf	Hectare	ha
2	Power		Brinell Hardness	HB
	1 hp	1.01387 metric hp (Ps)	Rockwell Hardness	HRC
		745.7 W	Outer Diameter	O.D.
	1 Ps	735.5 W	Inner Diameter	I.D.
	1 kW	1.35962 Ps	Indian Standard	IS
3	Pressure		Mercury	Hg
	1 psi	6.895 kPa	Mild Steel	MS
	1 kgf/cm ²	98.067 kPa = 735.56 mm of Hg	Not Applicable/ Not available	NA
			Not Recorded	NR
	1 bar	100 kPa = 10 N/cm ²	Relative Humidity	RH
	1 mm of Hg	1.3332 m-bar	Revolutions per minute	rpm
			Power take-off	PTO

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Type of test : Commercial (Initial)

Name of Machine : Brush Cutter

Make : CCK

Model : CCK-GX35-S

Type : Engine operated

Country of origin : **CHINA**

Name and address of the manufacturer : M/s. ZHUHAI UNIONSTRON ABRASIVES CO., LTD, No.59-1108, Jiuzhou Avenue 1009, Zhuhai-519000 Guangdong, **CHINA**

Website : --

E-mail : --

Name and address of the applicant : CHAVAN AND COMPANY, Room No 8, D/6, Siddhivinayak Society, Sector-8, Sanapada, Navi Mumbai, Thane, Maharashtra – 400 705

Website : --

E-mail : chavan_arvind82@rediffmail.com

Test conducted by : **GOVERNMENT OF INDIA**
North Eastern Region Farm Machinery Training and Testing Institute,
PO: Biswanath Chariali,
Dist: Biswanath-784 176 (Assam)
(An ISO 9001-2015 Certified Institute)



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1. SCOPE OF TEST

1.1 LABORATORY TEST

- Checking of specifications
- Mechanical vibration measurement
- Noise measurement
- Wear assessment of critical components
- Engine performance test

1.2 FIELD TEST

- Rate of work
- Quality of work
- Labour requirement
- Adequacy of prime mover power
- Ease of operation, adjustment and safety provisions
- Defects, breakdowns and repairs



2. METHOD OF SELECTION

The test sample was selected by the testing authority through random selection. The following test samples were presented by the applicant during the random selection.

Sr. No.	Serial No. of test sample	Remarks
1	2025-00001	Out of five samples, Sr. No. 4 sample was randomly selected.
2	2025-00002	
3	2025-00003	
4	2025-00004	
5	2025-00005	

3. TEST CODE AND PROCEDURE

There is no Indian Standard Test Code available for testing of brush cutter as such. However, for engine performance test, IS 7347-1974 (Reaffirmed 2021) was referred.

4. SPECIFICATIONS

4.1 General:

Name of the Machine : Brush Cutter

Name and address of the manufacturer : M/s. ZHUHAI UNIONSTRON ABRASIVES CO., LTD, No.59-1108, Jiuzhou Avenue 1009, Zhuhai-519000 Guangdong, CHINA

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Name and address of applicant : CHAVAN AND COMPANY, Room No 8, D/6, Siddhivinayak Society, Sector-8, Sanapada, Navi Mumbai, Thane, Maharashtra – 400705

Make : CCK

Model : CCK-GX35-S

Serial No. : 2025-00004

Type : Engine operated

Type of cutting attachment : Nylon rope and Straight blade

Year of manufacture : 2025

Country of origin : CHINA

Type of crops/bush recommended : All kinds of weeds/bushes

4.2 Constructional details:

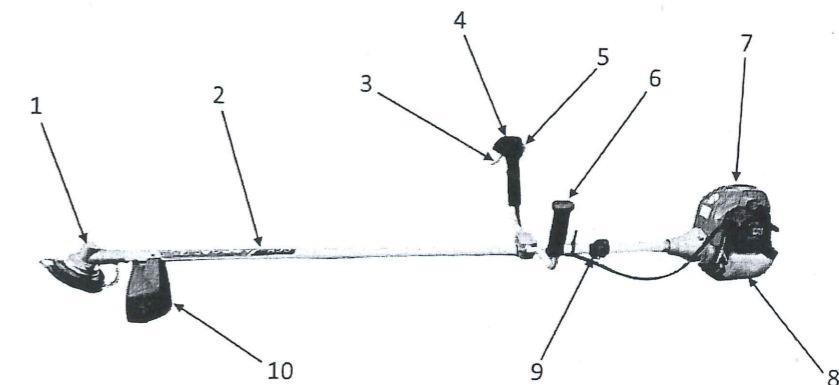


Fig. 1: BRUSH CUTTER, MODEL:CCK-GX35-S

Keywords:

- | | |
|--------------------------------|----------------------------------|
| 1. Gear case | 6. LHS handle |
| 2. Transmission cover pipe | 7. Engine |
| 3. Throttle cum clutch trigger | 8. Fuel tank |
| 4. RHS handle | 9. Connection for shoulder strap |
| 5. Engine stopping switch | 10. Deflector |

4.3 Details of Prime Mover:

Make (apa) : CCK
 Model : GX35-S
 Type : Four stroke, single cylinder, air cooled, spark ignition engine
 Serial No. : 2025-00004
 Year of manufacture (apa) : 2025
 Country of origin : CHINA
 Recommended high idle speed (rpm) : 9000±1000
 Recommended low idle speed (rpm) : 2800±200
 Recommended rated speed (rpm) : 7000
 Engine rated power observed (kW) : 0.54
 Engine rated power declared (kW) : 1.0

4.4 Cylinder and Cylinder head:

Number : One
 Disposition : Vertical
 Bore/stroke (mm) : 39/30
 Capacity (cc) : 36
 Valve clearance (mm):
 Inlet : 0.10
 Exhaust : 0.15

4.5 Carburetor:

Make : YINBA
 Type : Diaphragm
 Sl. No. : MPZ09YE521

4.6 Spark Plug:

Make : VICTA
 Model : CM7H
 Electrode gap (mm) : 0.55

4.7 Fuel supply system:

Type of fuel system : Vacuum feed
 Material of fuel tank : Plastic
 Capacity of fuel tank (l) : 0.65
 Location of fuel tank : At bottom of the engine
 Type of fuel filter : Strainer provided inside the fuel tank
 On/Off provision in fuel supply system : Not Provided



4.8 Air cleaner:

Make (apa) : ZHUHAI
 Type : Dry
 Type of element : Paper filter
 Location : On LHS of the engine
 Recommended service schedule (apa) : Clean daily and subsequently after every 30 hours of operation

4.9 Exhaust:

Type of silencer : Horizontal draft, rectangular box type
 Location of silencer : On RHS of the engine
 Provision for cover on exhaust : Provided
 Direction of exhaust emission away from operator : Yes

4.10 Cooling system:

Type : Air cooled

4.11 Lubricating System:

Type : Splash
 Oil capacity (l) : 0.08
 Type of lubricant recommended (apa) : SAE 15W40
 Oil change period : First 10 hours of operation, then subsequently after every 50 hours of operation.

4.12 Starting system:

Type : Manual, recoil starter
 Ignition system : Spark ignition
 Aid for cold starting : Choke was provided
 Any other provision for easy starting : None

4.13 Transmission System:

Mode of power transmission : Power was transmitted from the engine clutch to the cutting attachment through a metallic shaft of size 1530 x 8.0 φ mm and a gear case consisting of a bevel pinion, a bevel gear and a gear shaft.



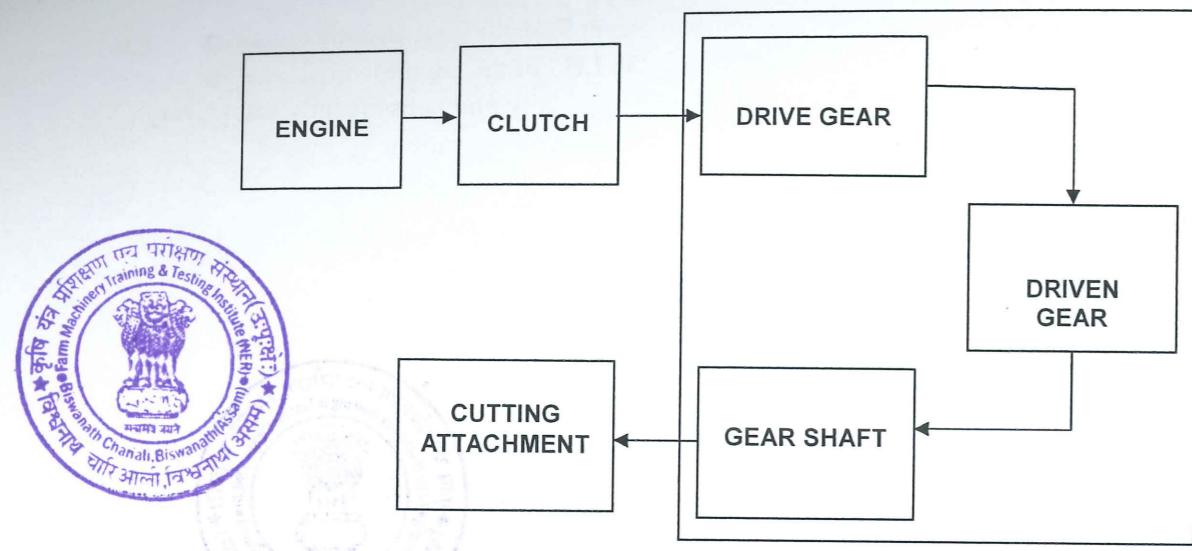


Fig. 2 : POWER FLOW DIAGRAM

- 4.13.1 Clutch:**
 Make : HL
 Type : Centrifugal
 Details of drive : When speed increases, due to centrifugal force the clutch plate moves outward and comes in contact with clutch drum and then drive goes to splined shaft and bevel gear box.
 Dia. of clutch (mm) : 74.1
 Dia. of clutch drum (mm) : 78.3
 Material : Asbestos
- 4.13.2 Gear drive details:**
 Type : Gear drive (bevel and pinion)
 No. of splines on splined shaft (one side) : 09
 Length of drive shaft (mm) : 1530
 Dia. of drive shaft (mm) : 8.0
 Dia. of drive shaft cover pipe (mm) : 28.0
 Type of lubrication : Grease
 No. of teeth on bevel gear : 19
 No. of teeth on pinion gear : 13
 Reduction ratio : 1:0.68
 Bearing details : Five number of ball bearings (6000RS-3 Nos., 6201- 1 No. & 6202 RS -1 No.)

- 4.14 Handle Grip:**
 No. of handle grip : 2
 Length of handle grip (mm) : 110 (LHS) and 127.4 (RHS)
 Dia. of handle grip (mm) : 37.5 (LHS) and 38.7 (RHS)
 Material of handle grip : Rubber (LHS) and Plastic & Rubber(RHS)
- 4.15 Cutting attachments:**
4.15.1 Nylon rope (Tap & Go)
 Length of rope (mm) : 2000
 Diameter of rope (mm) : 2.5
- 4.15.2 Straight blade:**
 Length(mm) : 305
 Thickness(mm) : 2.0
 Weight (kg) : 0.332
 No. of teeth : 2
- 4.16 Controls:**
 (i) Engine stopping switch was provided on handle (RHS).
 (ii) Throttle cum clutch lever was provided on handle (RHS).
 (iii) Choke was provided with the carburettor.
- 4.17 Safety provisions:**
 Provision for emergency stop of engine : Provided
 Provision for grass deflector at the rear of cutting mechanism : Provided
 Provision for cushion material with shoulder belt to dampen the vibration at shoulders : Provided
 Provision for safety kit (helmet, ear plug, mask, hand gloves, apron, protective cloth, safety shoes etc.) : Provided
- 4.18 Marking/Labeling:**
 One sticker was pasted on the engine cover with following details:

BRUSH CUTTER	
Make	CCK
Model	CCK-GX35-S
Serial number	2025-00004

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- 4.19 Overall dimensions (mm):
 Length : 1930 (with nylon rope attachment)
 Height : 380
 Width : 630
- 4.20 Mass of the machine (kg)
 (with all liquid reservoirs full and with all attachments) : 8.9
- 4.21 Color of the machine
 Engine : Silver
 Fuel tank : White
 Engine mounting base : Black
 Engine cover : Maroon



5. FUEL AND LUBRICANTS

- 5.1 Fuel : Petrol
- 5.2 Lubricants:

Sr. No	Particulars	As recommended by the manufacturer	As used during the test
1	Engine oil	SAE 15W40	SAE 15W40
2	Gear Case	Grease	Grease

6. RUNNING-IN

As recommended by the applicant, running-in was conducted for 1 hour at rated engine speed in field condition before commencement of actual test.

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7. ENGINE PERFORMANCE TEST

Date of Test: 03.11.2025
 Dynamometer used: AC Absorption (Electrodyn)
 Dynamometer Constant: 9550.0

Load (%)	Time in hour-minute after starting	Atmospheric Pressure (kPa)	Air Intake temperature (°C)	Relative Humidity (%)	Observed Speed (RPM)	Brake Load (N-m)	Power (kW)	Fuel consumed (g)	Fuel Consumption		S.F.C. (g/kWh)
									(kg/h)	(l/h)	
100	8:50 am	100.1	23.9	75.8	7117	0.69	0.51	10	0.41	0.55	796
100	09:50 am	100.2	24.5	74.8	7022	0.70	0.51	10	0.41	0.56	803
100	10:50 am	100.2	26.7	73.7	7024	0.72	0.53	10	0.41	0.56	780
100	11:50 am	100.4	27.1	74.6	6983	0.74	0.54	10	0.41	0.56	762
100	12:50 pm	100.1	27.6	74.4	6991	0.75	0.55	10	0.41	0.55	747
100	01:50 pm	100.3	27.6	73.5	6995	0.75	0.55	10	0.41	0.56	752
100	02:50 pm	100.2	27.8	74.2	7001	0.75	0.55	10	0.41	0.56	753
100	03:50 pm	100.1	27.8	73.1	6995	0.74	0.54	10	0.41	0.56	760
	Average	100.2	26.6	74.3	7016	0.73	0.54	10	0.41	0.56	769
110	04:35 pm	99.8	27.8	75.6	6747	0.80	0.57	10	0.40	0.54	702
75	04:55 pm	99.7	28.0	76.8	7602	0.55	0.44	10	0.43	0.58	977
50	05:05 pm	99.9	28.2	76.2	8095	0.37	0.31	10	0.44	0.60	1419
25	05:15 pm	100.1	28.0	77.1	8495	0.18	0.16	10	0.47	0.63	2938
Unloaded	05:25 pm	100.2	28.2	76.6	8700	*	*	10	0.46	0.61	*

* Data not recorded due to Dyno. Constraints



8. MECHANICAL VIBRATION MEASUREMENT

Date of test : 30.10.2025
 Type of test surface : Concrete
 Type of Instrument used : MMF&VM-30
 Test condition : At rated engine speed without load and all components are in working position.

The amplitude of mechanical vibration on the following assemblies/components of brush cutter was observed as under.

Cutting attachment: Nylon rope

Sr. No.	Location	Horizontal Direction		Vertical Direction
		X(μ)	Y(μ)	Y(μ)
1	Steering Handle	RHS	120*	180*
		LHS	180*	170*
2	Engine Cover		290*	340*
3	Drive shaft cover pipe		240*	310*

*The amplitude of mechanical vibration is on higher side.

Cutting attachment: Straight blade

Sr.No.	Location	Horizontal Direction		Vertical Direction
		X(μ)	Y(μ)	Y(μ)
1	Steering Handle	RHS	180*	270*
		LHS	200*	180*
2	Engine Cover		270*	250*
3	Drive shaft cover pipe		320*	290*

*The amplitude of mechanical vibration is on higher side.

9. NOISE MEASUREMENT

9.1 Noise at operator's ear level:

Date of test : 30.10.2025
 Type of sound level meter : Class-I, Make- Casella, Model-CEL-633C

Atmospheric conditions:

Temperature ($^{\circ}$ C) : 30.2
 Wind velocity (m/s) : 1.7
 Pressure (kPa) : 100.1
 Relative humidity (%) : 76.7
 Background noise level, dB(A) : 43.6

9.2 Observed noise level, dB(A):

With nylon rope attachment : 94.8
 With straight blade attachment : 93.2



10. HARDNESS AND CHEMICAL COMPOSITION

10.1 Hardness of straight blade:

Sr. No.	Hardness as per IS: 6025 – 2024 (HRC)	Hardness as measured (HRC)	Remarks
1	45 to 62	41	Does not conform

10.2 Chemical composition of straight blade:

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

Constituent	As per IS: 6025 – 2024 (%)	Composition as observed (% by weight)	Remarks
Carbon (C)	0.50 to 0.95	0.564	Conforms
Manganese (Mn)	0.2 to 0.8	0.629	Conforms
Silicon (Si)	--	0.219	--
Sulphur (S)	--	0.002	--
Phosphorous (P)	--	0.018	--

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	10.25	330.19	321.10	9.09	2.75	0.27

12. FIELD PERFORMANCE TEST

Field tests were conducted for total of 25.28 hours duration. Grass/weeds cutting with nylon rope and bush cutting with straight blade attachment were carried out for 15.03 hours and 10.25 hours, respectively. A total of four test trials were conducted at rated engine speed of 7000rpm. Detailed results of field tests are shown in ANNEXURE-I & II and summarized in the ensuing Table. Details of operators have been given in ANNEXURE-III.



SUMMARY OF FIELD PERFORMANCE TEST

Sr. No.	Parameters	Grass/weeds cutting with nylon rope	Bush cutting with straight blade
1	Field Condition	Level	
2	Thickness of stem of Grass/Bush at cutting height (mm)	1.87 to 2.60	15.98 to 16.46
3	Number of Grass/Bush per m ²	110 to 129	105 to 116
4	Height of Grass/Bush (mm)	180 to 190	1540 to 1760
5	Mass of Grass/Bush cut (kg/h)	72.2 to 149.2	353.7 to 691.6
6	Mass of Grass/Bush cut (kg/ha)	2780 to 3730	8040 to 13300
7	Rate of work (ha/h)	0.026 to 0.040	0.044 to 0.052
8	Time required for one hectare (h)	25.00 to 38.46	19.23 to 22.73
9	Fuel consumption:		
	-l/h	0.66 to 0.67	0.92 to 0.94
	-l/ha	16.50 to 25.77	18.08 to 20.91

12.1 Grass/Weeds cutting using nylon rope:

12.1.1 Rate of work:

The area of cut was recorded as 0.026 to 0.040 ha/h.
Time required for one hectare was recorded 25.00 to 38.46 hours.
Mass of weeds cut was 72.28 to 149.20 kg/h.

12.1.2 Fuel consumption:

Fuel consumption was observed as 0.66 to 0.67 l/h and 16.50 to 25.77 l/ha.

12.2 Bush cutting using straight blade:

12.2.1 Rate of work:

The area of cut was recorded as 0.044 to 0.052 ha/h.
Time required for one hectare was recorded as 19.23 to 22.73 hours.
Mass of weeds cut was 353.7 to 691.6 kg/h.

12.2.2 Fuel consumption:

Fuel consumption was observed as 0.92 to 0.94 l/h and 18.08 to 20.91 l/ha.

12.3 Labour/operator requirement:

It was observed that an averagely built person can able to operate the brush cutter for 40 to 45 minutes at a stretch. Hence, two operators are required for continuous operation of the brush cutter.

12.4 Adequacy of prime mover power:

The power of the prime mover was found adequate.



13. EASE OF OPERATION AND ADJUSTMENTS

No difficulties were observed in operation and adjustment during the field test.

14. DEFECTS, BREAKDOWNS AND REPAIRS

No noticeable defect or breakdown was observed during test.

15. COMPONENTS/ASSEMBLY INSPECTION

The Engine was dismantled after 36.28 hours of operation.

15.1 Engine:

Cylinder bore:

Cylinder bore dia., mm						Max. permissible wear limit, mm
Top position		Middle position		Bottom position		
Thrust side	Non-thrust side	Thrust side	Non-thrust side	Thrust side	Non-thrust side	
39.01	39.00	39.01	39.00	39.01	39.00	39.30

Piston:

Piston dia., mm				Max. Permissible wear limit at skirt (mm)	Clearance between piston & cylinder liner at the skirt of the piston, mm	
Top (above top compression ring)		At skirt			As observed	Max. permissible limit, (mm)
Thrust side	Non-thrust side	Thrust side	Non-thrust side			
38.75	38.75	38.96	*	Not specified	0.05	0.30

*Not recorded due to piston design constraints

Ring end gap:

Rings	Ring end gap, mm			Max. permissible end gap limit, mm
	Top	Middle	Bottom	
1 st comp. ring	0.15	0.15	0.13	1.0
2 nd comp. ring	0.20	0.20	0.20	
Oil ring	NA	NA	NA	

Ring side clearance:

Rings	Ring side clearance, mm	Max. permissible clearance limit, mm
1 st comp. ring	0.05	0.30
2 nd comp. ring	0.03	
Oil ring	*	

*Not recorded due to ring design constraints



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Main bearings: Two nos. of Ball bearings, 6202-1 No. and 6201- 1 No.

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	0.08	NA	0.14
2	Ball bearing	NA			

Big end bearing:

Bearing No.	Clearance, mm		Max. permissible clearance limit, mm	
	Diametrical	Axial	Diametrical	Axial
1	Needle bearing	NR	0.15	0.70

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

15.2 Valve, guide and timing gear:

Any marked sign of overheating of valves : None
Pitting of seat/faces of valves : None
Any visual damage of teeth of timing gears : None
Condition of ignition coil & magneto : Normal



Transmission system:

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


16. CRITICAL TECHNICAL SPECIFICATIONS
(Vide Ministry's letter No. 13-9/2019-(M&T) (I&P)-Part dated 26.04.2019)

Sr. No.	Parameters	Specifications	Observation	Remarks
1	2	3	4	5
1	Type	Self-propelled, portable	Self-propelled, portable	Conforms
2	Type of cutting attachment	Circular disc / Straight blade /nylon rope	Circular disc / nylon rope	Conforms
Circular blade				
3	Material of circularblade	Alloy steel	NA	--
4	No. of teeth on circular disc blade	50 - 100	NA	--
5	Root diameter / Overall diameter (mm)	200 - 270	NA	--
6	Thickness of disc (mm)	1.5 Min.	NA	--

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1	2	3	4	5
7	Teeth thickness (mm)	2.0 Min.	NA	--
8	Hardness of blade, HRC	68 -70	NA	--
Straight blade				
9	Material ofstraight blade	Alloy steel	Carbon steel	Does not conform
10	Diameter of straight blade(mm)	250 - 350	305	Conforms
11	Width at ends /at center (mm)	50 / 70, Min.	59.8/90.3	Conforms
12	Thickness of straight blade(mm)	1.5 Min.	2.12	Conforms
Nylon rope				
13	Length of nylon rope(mm)	2000 - 4000	2000	Conforms
14	Diameter of nylon rope(mm)	2.5 to 4.0	2.5	Conforms
15	Type of engine	Compression ignition / Spark ignition	Spark ignition	Conforms
16	Starting method	Manual / recoil / self -starting	Recoil starting	Conforms
17	Type of clutch	Cone / Centrifugal	Centrifugal	Conforms
18	Type of gear drive	Bevel pinion	Bevel pinion	Conforms
19	Capacity of fuel tank (l)	1.0 (Min.)	0.65	Does not conform
20	On /Off provision in fuel Supply system	Must be provided	Not provided	Does not conform
21	Provision for easy start of engine	Must be provided	Provided	Conforms
22	Provision for emergency stop of engine	Must be provided	Provided	Conforms
23	Provision for shield / cover to prevent flying of mud & stone from rotor	Must be provided	NA	--
24	Provision for Grass deflector at the rear of the cutting mechanism	Must be provided	Provided	Conforms
25	Provision for Pad with shoulder belt to dampen the vibration	Must be provided	Provided	Conforms
26	Provision for cover on exhaust	Must be provided	Provided	Conforms
27	Direction of exhaust emission away from operator	Must be provided	Provided	Conforms



1	2	3	4	5
28	Provision for safety kit (helmet, earplug, mask, hand gloves, safety protective cloth, safety shoes)	Must be provided	Provided	Conforms
29	Marking /labeling of machine 	The labeling plate should be riveted on the body of machine having Name and address of manufacturer & Applicant, Country of origin, Make, Model, Year of manufacturer, Serial number, Engine number, Engine HP, rated rpm & SFC.	Name and address of manufacturer, Country of origin, Year of manufacture, Engine number, rated rpm, Engine number, Engine HP& SFC were not provided on the labeling sticker. Instead of labeling plate, a sticker was pasted on the machine.	Does not conform
30	Literature	Operator manual, Service manual and Parts catalogue should be provided.	Provided	Conforms

17. COMMENTS AND RECOMMENDATIONS

- 17.1 The average rated power in rating test of engine was observed as 0.54 kW against declared value of 1.0 kW by the applicant/manufacturer. This should be looked into for corrective action.
- 17.2 As per critical technical specifications (vide Ministry's letter No. 13-9/2019-(M&T) (I&P)-Part dated 26.04.2019), capacity of fuel tank should be minimum 1.0 litre. This should be looked into for corrective action.
- 17.3 The engine was not marked with Manufacturer name or trade-mark, Rated power, Rated speed and type of fuel used which does not fulfill the requirement of IS 7347-1974 (Amended 2021). This should be looked into.
- 17.4 The hardness of straight blade does not conform to Indian Standard IS 6025-2024. This should be looked into for corrective action.
- 17.5 The labeling plate should be riveted on the body of machine having name and address of manufacturer, country of origin, year of manufacture, engine number, rated rpm, engine number, engine HP and SFC. This should be looked into.
- 17.6 Noise at operator's ear level was observed on higher side against danger limit of 90 dB(A) as specified by International Labour Organization (ILO) for continuous exposure of 8 hours per day. This calls for reduction in noise level to improve the operational comfort and safety of

operator.

- 17.7 The amplitude of mechanical vibration at various assemblies viz. engine cover, steering handle and drive shaft cover pipe were on higher side. This calls for dampening down of vibration to improve the operational comfort and service life of the components.
- 17.8 **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: 8132-2023.

TESTING AUTHORITY


(M.R. PATIL)
SENIOR AGRICULTURAL ENGINEER


(P. KAMALABAI)
DIRECTOR



Draft test report compiled by - Sh. D. Deori, Technical Assistant

18. APPLICANT'S COMMENTS

We have received your comments and recommendation. We will do the corrective action in future products.

ANNEXURE-I

FIELD PERFORMANCE TEST

Cutting attachment : Nylon rope (Tap and Go)
Place of test : NERFMTTI, Biswanath Chariali, Biswanath, Assam
Usage : Weeds/grass cutting

Sr. No.	Parameters	Test trial		
		I	II	
1	Date of test	24.10.2025	27.10.2025	
2	Net test duration (h)	7.50	7.53	
3	Avg. height of weeds (mm)	190	180	
4	Avg. thickness of stem of weeds at cutting height (mm)	2.60	1.87	
5	Avg. No. of weeds per m ²	110	129	
6	Avg. mass of weeds cut per m ² (g)	278	373	
7	Actual area cut (ha/h)	0.026	0.040	
8	Time required for one ha (h/ha)	38.46	25.00	
9	Mass of weeds cut			
		kg/h	72.2	149.2
		kg/ha	2780	3730
10	Fuel consumption			
		l/h	0.67	0.66
		l/ha	25.77	16.50



ANNEXURE-II

FIELD PERFORMANCE TEST

Cutting attachment : Straight blade
Place of test : NERFMTTI, Biswanath Chariali, Biswanath, Assam
Usage : Bush cutting

Sr. No.	Parameters	Test trial		
		I	II	
1	Date of test	28.10.2025	29.10.2025	
2	Net test duration (h)	5.10	5.15	
3	Avg. height of bush (mm)	1760	1540	
4	Avg. thickness of stem of bush at cutting height (mm)	16.46	15.98	
5	Avg. No. of bush per m ²	116	105	
6	Avg. mass of bush cut per m ² (g)	804	1330	
7	Actual area cut (ha/h)	0.044	0.052	
8	Time required for one ha (h/ha)	22.73	19.23	
9	Mass of bush cut			
		kg/h	353.7	691.6
		kg/ha	8040	13300
10	Fuel consumption			
		l/h	0.92	0.94
		l/ha	20.91	18.08



ANNEXURE-III

DETAILS OF OPERATORS

Operator	:	I	II	III	IV
Age, years	:	44	30	29	36
Height, cm	:	171	165	168	160
Weight, kg	:	64	62	58	66