

व्यावसायिक परीक्षण रिपोर्ट

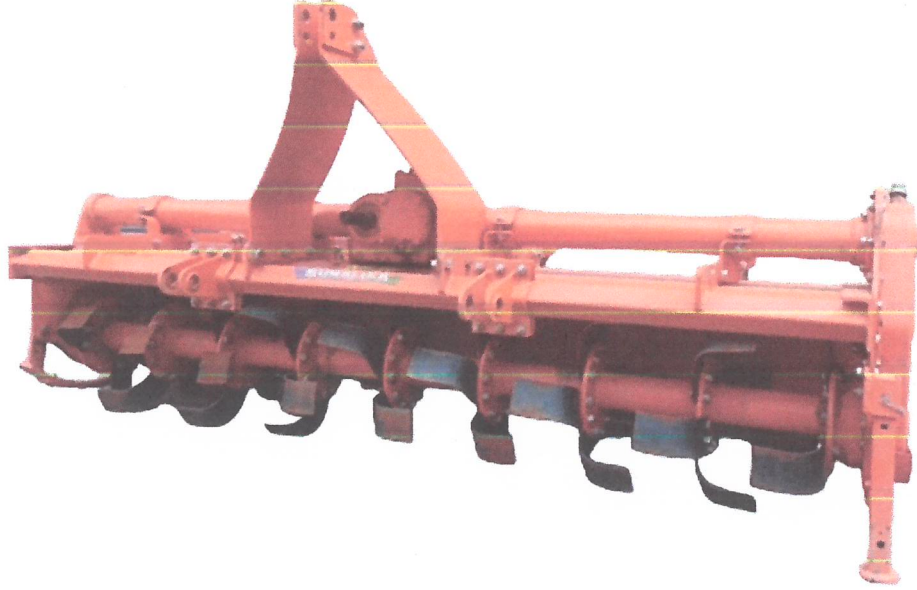
COMMERCIAL TEST REPORT

THIS TEST REPORT VALID UP TO

संख्या/No. CSIR/CMERI/FMTTC/2024/040

माह/Month: August, 2024

: 31st JULY, 2031



SONALIKA INDUSTRIES

(A Unit of International Cars & Motors Ltd.)

ROTAVATOR

(MODEL: SLCHAMSR -7)



Government Of India



कृषि मशीनरी प्रशिक्षण और परीक्षण केंद्र

Farm Machinery Training and Testing Centre

सीएसआईआर- केन्द्रीय यांत्रिक अभियांत्रिकी अनुसंधान संस्थान

CSIR - Central Mechanical Engineering Research Institute

महात्मा गांधी एवेन्यू, दुर्गापुर

Mahatma Gandhi Avenue, Durgapur

पश्चिम बंगाल - 713209

West Bengal - 713209

Website: <https://cm eri.res.in>

E-mail: fmttc.cmeri@gmail.com

Telephone: 9434592007 / 7001361295

Fax: +91-343-2546745

4. SPECIFICATION

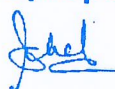
4.1. General

Type of machine	:	Rotavator
Make	:	SONALIKA INDUSTRIES (A Unit of ICML)
Model	:	SLCHAMSR -7
Serial No.	:	FS363965
Name and Address of manufacturer	:	SONALIKA INDUSTRIES (A Unit of International Cars & Motors Ltd.) Village Chak Gujran, Jalandhar Road, Hoshiarpur, Punjab
Year of manufacture	:	2023-24
Country of origin	:	INDIA
Type of blade	:	L-TYPE
Working width, mm	:	2134
Recommended Prime mover size	:	55-65 hp

4.2. Details of prime mover

Tractor used during test	:	
Make	:	SONALIKA
Model	:	DI-60 (12+12, 2WD)
Engine Sr. No.	:	195244D
Max. PTO power kW	:	38.03 kW (51 hp)
SFC (g/kW – hr)	:	249

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6. LABORATORY TEST

6.1. Hardness

The surface hardness of blade was recorded as under:

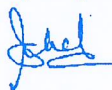
Description	As per IS: 6690:1981 (HRC)	Hardness as observed (HRC)	Remarks
Edge portion	53 to 59	53-54	Confirmed
On shank portion	37 to 45	43-44	Confirmed

6.2. Chemical composition

The chemical composition of blades is tabulated as under: -

Constituents	As per IS: 6690-1981		AS PER MINISTRY COMMUNICATION NO. 13-9/2019 M&T(I&P) dated 26.04.2019	Composition as observed (% of weight)	Remarks
	Carbon Steel	Silicon Manganese steel			
Carbon (C)	0.70 -0.85	0.50-0.60	Boron* 28MnCrB5 0.24-0.30	0.28	Confirmed
Silicon (Si)	0.10 -0.40	1.50-2.00	0.40 (max)	0.22	Confirmed
Manganese (Mn)	0.50 -1.0	0.50-1.00	1.10-1.40	1.31	Confirmed
Sulphur (S)	0.05(max)	0.05(max)	0.035 (max)	0.017	Confirmed
Phosphorous (P)	0.05(max)	0.05(max)	0.025 (max)	0.017	Confirmed
Chrome (Cr)	--	--	0.3-0.6	0.36	Confirmed
Boron (B)	--	--	0.0008-0.005	0.0023	Confirmed

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7. FIELD PERFORMANCE TEST

The field tests of the implement comprising of wet land and dry land operation were conducted for 43.30 hours respectively to assess the performance of the implement. The performance of implement is reported in **Annexure-I & II** for wet land and dry land operations respectively.

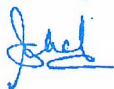


Fig. 8: Secondary gear box reduction unit



Fig. 9 Wet Land Operation

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13. COMMENTS AND RECOMMENDATIONS

- 13.1. No ingress of dust and water/mud in primary and secondary reduction box and rotary axle bearing cap was observed.
- 13.2. Parking stand and safety device are provided
- 13.3. The implement hitch specifications confirm partially as per IS standard. Corrective action needs to be taken at production end.
- 13.4. The PIC of implement specifications confirm partially as per IS standard. Corrective action needs to be taken at production end.

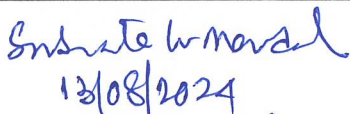
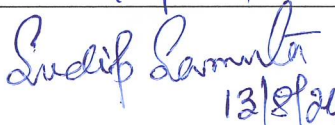
14. TECHNICAL LITERATURE

The following literatures are provided by the applicant during the test along with the application form.

- a) User's manual book
- b) Parts' catalogue
- c) Service manual

However, these manuals need to be updated as per IS: 8132-1999.

TESTING AUTHORITY

Report Prepared by	Technical Officer CSIR-CMERI Farm Machinery Testing Centre	 13/08/2024
Report Approved by	In-Charge, CSIR-CMERI Farm Machinery Testing Centre	 13/08/2024
Report Approved for release by	Head, Business Innovation and Skill Group, CSIR-CMERI, Durgapur	 13/08/24

15. APPLICANT'S COMMENTS

Para No.	Our Reference	Applicant's Comments
15	13.3	The Dimension of hitch specification will be improved at Vendor/ production end.
	13.4	The Dimension of PIC will be improved at Vendor/ production end.

