

व्यावसायिक परीक्षण रिपोर्ट
COMMERCIAL TEST REPORT

संख्या/ No.: IMP-977/2269/2019
माह/Month : January, 2019

THIS TEST REPORT VALID UP TO : 31st JANUARY, 2026



**SONALIKA SLM-200, MULCHER
(TRACTOR MOUNTED)**



भारत सरकार

Government of India

कृषि एवं किसान कल्याण मंत्रालय

Ministry of Agriculture and Farmers Welfare

कृषि, सहकारिता एवं किसान कल्याण विभाग

Department of Agriculture, Cooperation and Farmers Welfare

उत्तरी क्षेत्र कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान

Northern Region Farm Machinery Training and Testing Institute

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[ISO 9001:2015 CERTIFIED]

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4.11 Lubricants:

Sl. No.	Particulars	As recommended by the manufacturer	As used during test
1	Primary Gear box	EP 140	Oil originally filled in the machine was not changed
3	Rotor Hub	Grease	Servo M.P. Grease
4	Propeller Shaft	Grease	Servo M.P. Grease

5. RUNNING – IN

Run-in was not recommended by the applicant.

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	37.2 to 38.3	Does not conform
On shank portion	37 to 45	37.2 to 38.3	Conforms

6.2 Chemical composition

The chemical composition of blades is tabulated as under:-

Constituents	As per IS: 6690-1981		Composition as observed (% of weight)	Remarks
	Carbon Steel	Silicon Manganese steel		
Carbon (C)	0.70 -0.85	0.50-0.60	0.1959	Does not conform
Silicon (Si)	0.10 -0.40	1.50-2.00	0.3910	Conforms
Manganese (Mn)	0.50 -1.0	0.50-1.00	1.2104	Does not conform
Sulphur (S)	0.05(max)	0.05(max)	0.0160	Conforms
Phosphorous (P)	0.05(max)	0.05(max)	0.0315	Conforms

7. FIELD PERFORMANCE TEST

The field tests of the implement were conducted for 37.19 hours to assess the performance of the implement. The performance of implement is reported in **Annexure-I & II**. Observations of field performance test are summarized in the ensuing table:-

Summary of Field Performance Test

Sl. No.	Parameters/operations	
I	II	III
1.	Tractor used	International Tractor Ltd, 60 RX world Trac (MST)
2.	Gear used	L -2
3.	Type of soil	Sandy loam
4.	Height of stubble before operation(cm)	10.7 to 28.2
5.	Height of stubble After operation(cm)	5.4 to 7.9
6.	Mass of stubble in one m ² area before operation(gm)	198.3 to 1230.1
7.	Mass of stubble in one m ² area after operation(gm)	72.1 to 149.1
8.	Straw length (cm)	6.7 to 19.2
9.	Loose straw mass before operation in one meter m ² area (gm)	13.93 to 45.73
10.	Straw mass in one m ² area after operation (gm)	74.47 to 764.93
11.	Loose straw length before operation (cm)	14.0 to 45.73
12.	Average speed of operation (kmph)	1.78 to 1.83
13.	Avg. working width (cm)	200 to 209
14.	Area covered (ha/h)	0.250 to 0.347
15.	Time required for one ha (h)	2.26 to 4.00
16.	Field efficiency (%)	65.96 to 92.17
17.	Residual load (t/ha)	3.18 to 12.96
18.	Fuel consumption	
	l/h	3.61 to 4.10
	l/ha	10.40 to 14.88
19.	Average PTO power utilized (kW)	14.40

7.1 Quality of work

- i) Height of stubble after operation was observed as 5.4 to 7.9 cm
- ii) Mass of stubble in one m² area after operation was observed as 72.1 to 149.1 gm
- iii) Straw mass in one m² area after operation was observed as 74.47 to 764.93 gm

7.2 Rate of work

- i) The rate of work was recorded as 0.250 to 0.347 ha/h, and the speed of operation varies from 2.13 to 2.23 kmph.
- ii) The time required to cover one hectare was recorded as 2.26 to 4.00 h.
- iii) Average PTO power utilized by the machine was observed as 14.40 (kW)
- iv) Residual load was observed as 3.18 to 12.96 t/ha

10. COMMENTS AND RECOMMENDATIONS

- 10.1** Labeling plate provided on machine with in adequate information. The labeling plate MUST be provided on machine with following information :-
- Name and address of Manufacturer
 - Make
 - Model
 - Size (m) [dia of rotor x width of cut]
 - Country of origin
 - Year of manufacturer [DD/MM/YYYY]
 - Chassis Serial Number.
 - Recommended P.T.O speed of prime moves, (rpm)
 - Maximum P.T.O power required, kW.
- 10.2** The specifications of implement hitch, does not conform in toto to the IS: 4468 (Part-1)-1997. It should be looked into.
- 10.3** Dimensions of PIC of implement does not conform in toto to IS: 4931-1995 and therefore, it should be looked into for corrective action.
- 10.4** Hardness of the blade does not conform to IS: 6690:1981. This needs to be looked into for corrective action at production level.
- 10.5** The chemical composition of blades does not conform to as per IS: 6690-1981. This needs to be looked into for corrective action at production level.
- 10.6** The safety device on the propeller shaft is not provided. It **MUST** be provided.
- 10.7** **Technical literature:-**
Only operators manual provided by applicant with machine during the testing. It is recommended to provide following literature.
1. Service manual.
The operator manual should be updated as per IS : 8132-1999

TESTING AUTHORITY

R. K. NEMA SENIOR AGRICULTURAL ENGINEER	<i>Ran</i>
P. K. PANDEY DIRECTOR	<i>LIBU - MVEG</i>

Draft test report compiled by : V.S.Shinde, Senior Technical Assistant

11. APPLICANT'S COMMENTS

Para No	Our reference	Applicant's comments
11.1	10.2	The specification of implement hitch will be taken care in our regular production as per IS : 4468-(Part-1) 1997.
11.2	10.3	Dimension of PIC of implement will be taken care in our regular production.
11.3	10.4	Hardness of blades will be taken care in our regular production as per IS : 6690-1981.
11.4	10.5	The chemical composition of the blade will be taken care in our regular production as per IS : 6690-1981.
11.5	10.6	Will take care and will be provided with every delivery to the customers.