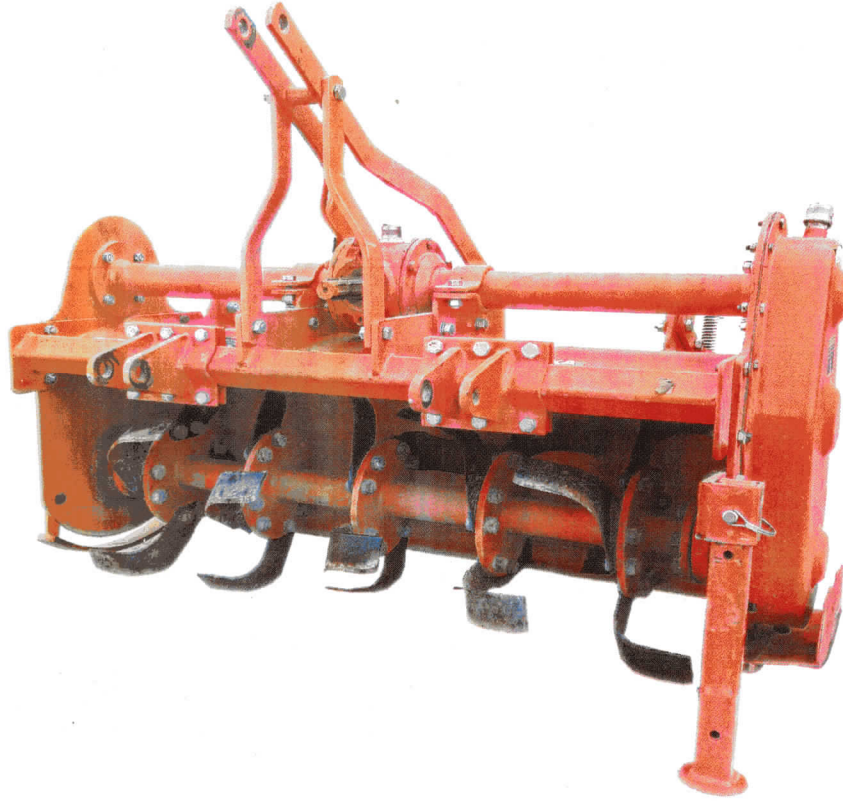


व्यावसायिक परीक्षण रिपोर्ट
COMMERCIAL TEST REPORT

संख्या/ No.: ROTAVATOR-289/2528/2020

माह/Month : September, 2020

THIS TEST REPORT VALID UP TO : 30th SEPTEMBER, 2027



**SONALIKA, SLSSMR-3.5 ROTAVATOR
(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

ट्रेक्टर नगर, सिरसा रोड, हिसार, (हरियाणा) - 125 001

Tractor Nagar, Sirsa Road, HISAR (Haryana)-125 001

[ISO 9001:2015 CERTIFIED]

Website: <http://nrfmtti.gov.in/>

E-mail: fmti-nr@nic.in

Tele./FAX: 01662-276984

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 rotavator was not changed
2	Secondary Gear box	EP-140	
3	Rotor Hub	EP-140	
4	Propeller Shaft	Not specified	M.P. Grease

5. RUNNING – IN

Rotavator was run in for 0.95 hour before field performance test.

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	52	Does not conform
On shank portion	37 to 45	51	Does not conform

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	0.3010	Does not conform
Silicon (Si)	0.10 -0.40	1.50-2.00	0.2497	Conforms to carbon steel
Manganese (Mn)	0.50 -1.0	0.50-1.00	1.0798	Does not conform
Sulphur (S)	0.05(max)	0.05(max)	0.0304	Conforms
Phosphorous (P)	0.05(max)	0.05(max)	0.0282	Conforms

7. FIELD PERFORMANCE TEST

The field tests of the rotavator was conducted for 36 hrs., as recommended by the applicant, **for dry land only**, to assess the performance. The details of performance test is reported in **Annexure-I**.

Observations of field performance test is summarized in the ensuing table:



Percentage wear of rotavator blades on mass basis

Sl. No.	Initial mass of blade (g)	Mass of blade after 37.34 hr. of operation (g)	Difference of weight (g)	Percentage of wear (%) after 37.34 hr.	Percentage of wear on hour basis (%)
1.	831.4	770.0	61.4	7.39	0.20
2.	822.6	768.2	54.4	6.61	0.18
3.	822.6	764.9	57.7	7.01	0.19
4.	824.3	767.3	57.0	6.91	0.19
5.	818.4	774.0	44.4	5.43	0.15

8. EFFECTIVENESS OF SEALINGS

Wet Land test was not recommended by the applicant, hence not done.

9. EASE OF OPERATION & ADJUSTMENTS

No noticeable difficulty was observed during the operation and adjustment of rotavator.

10. DEFECTS, BREAKDOWN AND REPAIRS

No noticeable defect or breakdown was observed during the test.

11. CRITICAL TECHNICAL SPECIFICATION

Deferred till 31.12.2020 vide Ministry O.M. No 13-13/2020 M&T, (I&P) dated 24.04.2020

12. COMMENTS AND RECOMMENDATIONS


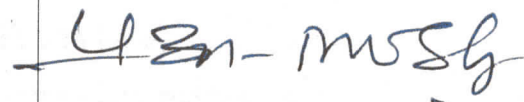
- 12.1 The Dimension of three point linkage of implement does not conform, in toto, to the requirements of IS: 4468(Part-2)-1993 and therefore, it may be looked into for corrective action.
- 12.2 The Dimensions of PIC of implement does not conform, in toto, to the requirements of IS: 4931-1995 and therefore, it may be looked into for corrective action.
- 12.3 The chemical composition of blades does not conform, in toto, to the requirements of IS: 6690-1981. This needs to be looked into for corrective action.
- 12.4 The hardness of blades does not conform, to the requirements of IS: 6690-1981. This needs to be looked into for corrective action
- 12.5 Recommended power source is indicated as " 18 HP and above" in the specification sheet, at variance with "24-30 HP" as indicated in the labeling plate. **This is misleading to the users** and calls for necessary action.
- 12.6 The Make of the tractor is given as " International Tractor Ltd." In the labeling plate of the tractor, whereas it is "Sonalika International" in the Budni test report No. T-1008/1532/2016. **This is again a serious discrepancy** which needs for immediate corrective action.



12.7 Technical literature:-

One booklet entitled "Service, Operating & Maintenance Manual cum Spare parts Catalogue with Warranty Card" was provided for reference during test. The same, however, needs to be updated as per IS-8132-1999.

TESTING AUTHORITY

RINKU PRASAD GUPTA TECHNICAL ASSISTANT	
P. K. PANDEY DIRECTOR	

13. APPLICANT'S COMMENTS

Para No	Our reference	Applicant's comments
13.1	12.1	The dimension of three point linkage of implement will be improve at production end, as per requirement of IS:4468(Part-2)-1993
13.2	12.2	The dimension of PIC of implement will be improve at vendor/production end.
13.3	12.3	The chemical composition of blades will be improve at vendor/production end.
13.4	12.4	The hardness of blades will be improve at vendor/production end
13.5	12.7	Technical literature will be updated as per IS:8132-1999.

