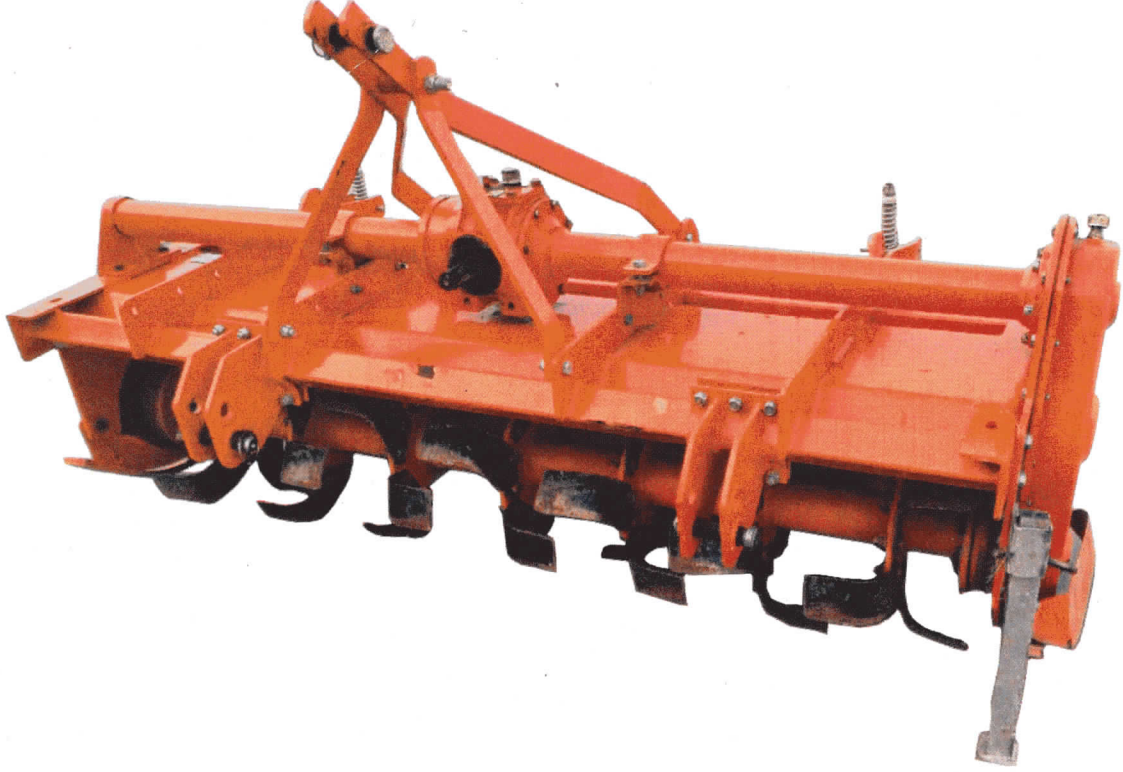


व्यावसायिक परीक्षण रिपोर्ट  
COMMERCIAL TEST REPORT

संख्या/ No.: ROTAVATOR-299/2550/2020  
माह/Month: October, 2020

**THIS TEST REPORT VALID UP TO : 31<sup>st</sup> OCTOBER, 2027**



**SOILTECH, SS-185 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

ट्रैक्टर 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](mailto:fmti-nr@nic.in)

Tele./FAX: 01662-276984

ROTAVATOR-299/2550/2020	SOILTECH, SS - 185 ROTAVATOR (TRACTOR MOUNTED) (COMMERCIAL)
-------------------------	--

#### 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	<b>Not specified</b>	M.P. Grease
4	Propeller Shaft	<b>Not specified</b>	

### 5. RUNNING – IN

Rotavator was run in for 1.95 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	51	<b>Does not conform</b>
On shank portion	37 to 45	48	<b>Does not conform</b>

#### 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	0.1620	<b>Does not conform</b>
Silicon (Si)	0.10 -0.40	1.50-2.00	0.3013	Conforms to carbon steel
Manganese (Mn)	0.50 -1.0	0.50-1.00	0.9990	Conforms
Sulphur (S)	0.05(max)	0.05(max)	0.0553	<b>Does not conform</b>
Phosphorous (P)	0.05(max)	0.05(max)	0.0560	<b>Does not conform</b>

### 7. FIELD PERFORMANCE TEST

The field tests of the rotavator comprising of Wet land and dry land operation were conducted for 10 and 28 hours respectively to assess the performance test is reported in **Annexure-I & III** for wet land and dry land operation respectively.

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



**7.3 Labour requirement**

In all, two skilled operators are needed to ensure continuous operation of rotavator for day long period.

**7.4 Wear analysis (on mass basis)**

Wear of hatchet blades (on mass basis) was measured and recorded in ensuing table:

**Percentage wear of rotavator blades on mass basis**

Sl. No.	Initial mass of blade (g)	Mass of blade after 40.36 hr. of operation (g)	Difference of weight (g)	Percentage of wear (%) after 40.36 hr.	Percentage of wear on hour basis (%)
1.	931.8	912.7	19.1	2.05	0.05
2.	906.3	899.6	6.7	0.74	0.02
3.	885.6	878.4	7.2	0.81	0.02
4.	915.0	907.4	7.6	0.83	0.02
5.	821.0	815.9	5.1	0.62	0.02
6.	939.7	925.0	14.7	1.56	0.04
7.	922.8	918.0	4.8	0.52	0.01

**8. EFFECTIVENESS OF SEALINGS**

After completion of wet land operation for 10 hours, the rotavator was dismantled for checking the effectiveness of sealing provided against ingress of dust, and water/mud in various sub-assemblies/components. The observations are given in ensuing table:-

Sl. No.	Location	Whether ingress of mud and/or water was observed (Yes/No)
1.	Primary reduction gear box	No
2.	Secondary reduction gear box	No
3.	Rotor assembly (hub)	No

**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**

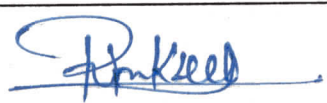
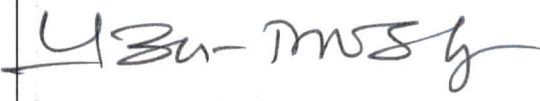
Deferred till 31.12.2020 vide Ministry O.M. No 13-13/2020 M&T, (I&P) dated 24.04.2020



**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-1)-1997 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 “ 40-50 HP” in the specification sheet, at variance with “40-50 kW” as indicated in the labeling plate. **This is misleading to the users and calls for necessary action.**
- 12.6 There is no provision to check oil level of secondary reduction gear box. It **MUST** be provided.
- 12.7 The Model of the tractor is given as “ DI 750 III” In the labeling plate of the tractor, whereas it is “Sonalika International DI-750 III Super” in the Budni test report No. T- 825/1334/2012. **This is again a serious discrepancy** which needs for immediate corrective action.
- 12.8 **Technical literature:-**  
One booklet entitled “Operator cum service manual cum Parts Catalogue” 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**

No specific comments received from applicant.

