

THIS TEST REPORT VALID UP TO : 31st July, 2029



**GARUD-GLLLS,
LASER LAND LEVELER**



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

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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IMP-1053/2869/2022	GARUD-GLLLS, LASER LAND LEVELER (COMMERCIAL)
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3.	Manganese (Mn)	--	0.43	--
4.	Sulphur (S)	--	0.10	--
5.	Phosphorous (P)	--	0.02	--

15. RUNNING-IN

The laser land leveler was running-in for 1.0 hour prior to start of the test as per the recommendation of the applicant.

16. FIELD TEST

The field tests of 25.18 hours with 4 replications were conducted. The field performance observations are given in Annexure-I to V.

The summary of field performance test is given in Table-IX.

Table-IX: Summary of field performance

Sl. No.	Parameters	Observations
i)	Tractor used	Swaraj 855
ii)	Gear used	H-1
iii)	Type of soil	Sandy Loam
iv)	Soil moisture, %	9.20 to 10.70
v)	Bulk density of soil, g/cc	Before operation
		After operation
vi)	Area covered, ha/h	0.036 to 0.044
vii)	Time required for one hectare, h	22.73 to 27.78
viii)	Fuel consumption	- l/h
		- l/ha
ix)	Total volume of cut, m ³	2.78 to 45.97
x)	Total volume of fill, m ³	66.96 to 163.75
xi)	Total volume of earth work	m ³
		m ³ /h
		m ³ /l
xii)	Leveling Index before operation	3.56 to 8.60
xiii)	Leveling index after operation	0.35 to 0.65
xiv)	Draft requirement, kg	216.00 to 251.80

16.1 Rate of Work

16.1.1 The field capacity in sandy loam soil was recorded as 0.036 to 0.044 ha/h.

16.1.2 Total volume of cut 2.78 to 45.97 m³

16.1.3 Total volume of fill 66.96 to 163.75 m³

16.1.4 The time required to cover one hectare area was recorded as 22.73 to 22.78 h.

16.2 Quality of work

Leveling Index before and after field operation was observed from 3.56 to 8.60 and 0.35 to 0.65 respectively.

IMP-1053/2869/2022	GARUD-GLLLS, LASER LAND LEVELER (COMMERCIAL)
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27	Current Usage, Amp(A)	5 to 10	5	Conforms
28	Switch Options	Raise/Lower, Auto Manual	Provided	Conforms
29	Enclosure type	Casted Aluminum or any alloy, Rust proof	Provided	Conforms
30	Cables	Set of cables with Military connectors	Provided	Conforms
31	Accessories	Survey scale, Survey receiver	Provided	Conforms
Bucket Scrapper				
32	Working Width, mm	1500 to 2500	2120	Conforms
33	Bucket Depth, mm	600 (Min)	600	Conforms
34	Material	MS sheet, B2062/EN 10130	M.S sheet	Conforms
	Sheet thickness, mm	10	10	Conforms
35	Blade Height, mm	125 ± 5	125	Conforms
36	Blade thickness, mm	12 ± 0.5	12	Conforms
37	Blade material	High carbon steel, EN8 and above	High carbon steel	Conforms
38	No. of tyres	2/4 (6×16)	Provided	Conforms
39	Mast	Rigid Mast/Gear Mast/Electric mast	Gear Mast	Conforms
40	Hydraulic Cylinder	Automatic double Acting hydraulic cylinder	Provided	Conforms
41	Hydraulic valve	Automatic double acting hydraulic valve assemble with pressure relive valve.	Provided	Conforms
42	Accessories	Set of High-Pressure hoses, Firm tripod stand, top link	Provided	Conforms
43	Marking/labeling of machine	The labeling plate should be riveted on the body of machine having name & address of manufacturer, country of origin, make, model, year of manufacturer, serial number, wt in kg, tractor kW/hp.	Provided	Conforms
44	Literature	Operator manual, service manual & parts catalogue should be provided.	Provided	Conforms

Note:- The implementation of critical technical specifications has been deferred till 30.09.2022 vide Ministry's O.M. No. 13-1/2021-M&T (I&P) dated 03.02.2022

19. SOUNDNESS OF CONSTRUCTION

No noticeable breakdown during 25.18 hours of field operation was observed.

20. COMMENTS & RECOMMENDATION

- 20.1** The safety warnings, signs and pictograms are not provided on the machine. It should be provided for safety of the users.
- 20.2** The hardness & chemical composition of the soil cutting blade do not meet the requirement of IS: 9813-2002. This should be looked into.
- 20.3** The beveling edge is not provided on cutting blade. It should be provided.



21. TECHNICAL LITERATURE

Following literature was submitted by applicant for reference during test.

- (i) Operator manual
(ii) Parts catalogue
(iii) Service manual

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

TESTING AUTHORITY

Er. SANJAY KUMAR AGRICULTURAL ENGINEER	
Dr. MUKESH JAIN DIRECTOR	 12.07.2022

Draft Test Report Compiled by Sh. Deny Hasnu, Sr. Technician

22. APPLICANT'S COMMENTS

In future we will take care this all things and make product as per govt. Norm.