

व्यावसायिक परीक्षण रिपोर्ट
COMMERCIAL TEST REPORT

संख्या/ No.: IMP-1002/2317/2019

माह/ Month: June, 2019

THIS TEST REPORT VALID UP TO : 30th JUNE, 2026



GYRO RAKE KUHN S.A. GA 300 GM



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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LUBRICATING POINTS:-

Table-1 Lubricating and greasing points		
Sr. No.	Description (Daily or alternate day)	Numbers
1	Hitch Pyramid	03
2	Power take off shaft (PTO shaft)	07
3	Rotor gears	01
4	Rotor arm housing	09
5.	Axle tandem	02
	Total	22

**SAFETY DECALS AND
NOTICE ON MACHINE**

- : The following signs and symbols provided on the machine
- (i) Warning signs
 - (ii) Danger signs
 - (iii) Indication signs

LABELLING PLATE:

Metallic plate is riveted on the machine having following information

KUHN	KUHN S.A
	67700 SAVERNE FRANCE
TYPE	GA 300GM
NO C0178	MASSE 0286KG
1132600 C0178	MADE IN FRANCE

**6. RUNING-IN**

The gyro rake was run-in for 1.0 hours in loose straw of Paddy prior to start of the test as per the recommendation of the applicant.

7. FIELD TEST:

The gyro rake driven by Sonalila DI 750 DC tractor at engine throttle setting corresponding PTO speed of 540 rpm was tested in the field for 20.55 hrs for collecting of loose straw after Paddy harvesting by combine harvester. During test, field performance of gyro rake was assessed with regard to quality of work, rate of work, fuel consumption, safety and soundness of construction etc. The atmospheric condition and performance parameter as observed during field tests are also given in **Annexure-I** and summarized in **Table-2**.

Table-2: Summary of field performance test.

Sr. No.	Observations	Range of observations
1.	Speed of operation, kmph	2.88 to 2.93
2.	Width of cut, m	2.56 to 2.64
3.	Over lap percent, %	2.22 to 5.19
4.	Rate of work, ha/h	0.594 to 0.750
5.	Fuel consumption	
	l/h	2.80 to 3.50
	l/ha	4.63 to 5.89
	l/t	1.62 to 2.44
6.	Power consumption, kw	0.94
7.	Field efficiency, %	75.1 to 81.79
8.	Hay charge transported	
	t/h	1.227 to 1.728
	t/l	0.409 to 0.617
9.	Straw collecting efficiency, %	88.81 to 91.30

RATE OF WORK AND FUEL CONSUMPTION:

During test, the speed of operation varied from 2.88 to 2.93 kmph for Paddy straw collection in windrows. The output (area covered) varied from 0.594 to 0.750 ha/h. & the average hourly fuel consumption varied from 2.80 to 3.50 l/h, the fuel consumption per unit area from 4.63 to 5.89 l/ha.

Quality of work:

- (i) The field efficiency ranged from 75.1 to 81.79 %.
- (ii) Hay collection in windrows ranged from 1.227 to 1.728 t/h
- (iii) The straw collecting efficiency ranged from 88.81 to 91.30 %.

8. COMPONENT AND ASSEMBLY INSPECTION:

- (i) Swathing machanism : No noticeable defect observed
- (ii) Transmission with gear box : No noticeable defect observed system

9. ADJUSTMENTS, DEFECTS, BREAKDOWN AND REPAIR

No breakdown occurred during 20.55 hrs of machine operation.

10. CRITICAL TECHNICAL SPECIFICATIONS

(Vide DAC & FW Communication No 13-9/2019 M & T (I & P) dated 26.04.2019)

Sl.No	Parameters	Specification requirement	Observation	Remarks
1	Type	Tractor operated Wheel rake/rotary rake/Side delivery rake	Tractor operated rotary rake	Conforms
2	Working width, m	1.0 (Min.)	2.56 to 2.64	Conforms
3	Hitching system	Three point linkage / draw bar hook	Three point linkage	Conforms
4	Swathing mechanism	Rake wheel/Tyne arm	Tyne arm	Conforms
5	Dia. of tines , mm	6 (min)	8.8	Conforms
6.	Marking/labelling	The labelling plate should be riveted on the body of machine having name & address of manufacturer, country of origin, make model, year of manufacture, serial number, size, required size of prime mover kW/hp	On the Labelling plate only make , model ,serial number & country of origin is provided	Does not conform
7.	Literature	Operator manual, service manual & parts catalogue should be provided	Only operator's manual and parts catalogue is provided	Does not conform

11. COMMENTS & RECOMMENDATIONS

- (i) The specifications of implement hitch, does not conform in toto to the IS: 4468 (Part-1)-1997. Hence, it is recommended that implement should be provided with the hitch conforming to relevant Indian Standards.
- (ii) Dimensions of PIC of implement does not conform in toto to IS: 4931-1995 and therefore, it should be looked in to for corrective action.

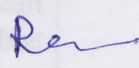
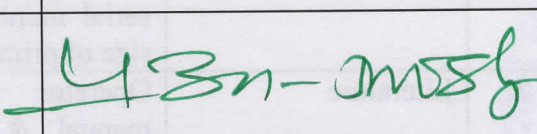
(iii) The labeling plate with following information should be provided on machine:-

- I. Make
- II. Model
- III. Serial No.
- IV. Year of manufacture
- V. Manufacturer's address
- VI. Recommended power of tractor
- VII. Recommended forward speed
- VIII. Recommended no load speed of machine

12. LITERATURE:

Operator's manual and parts catalogue was provided during the test.
It's recommended to update the Operator's manual as per IS:8132-1991.

TESTING AUTHORITY

R.K. NEMA Senior Agricultural Engineer	
P.K. PANDEY DIRECTOR	

13. APPLICANT'S COMMENTS

No specific comment received from applicant

