

व्यावसायिक परीक्षण रिपोर्ट
COMMERCIAL TEST REPORT



संख्या / No.: Machine 30/319
माह / Month: Octo., 2018



THIS TEST REPORT VALID UPTO 22/10/2025



**MAHINDRA SQUARE BALER, Model: BALEMASTER SQ 180
[Tractor Operated]**



भारत सरकार
GOVT OF INDIA

कृषि एवं किसान कल्याण मन्त्रालय

MINISTRY OF AGRICULTURE & FARMERS WELFARE

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6. FIELD PERFORMANCE TEST

The field tests of the Baler was conducted in the paddy field Baler was operated by John Deere 5050D for 25.2 hours to assess the performance of the machine with regard to quality of work, rate of work, fuel consumption etc. in L-1 gear. The performance of machine is reported in Annexure-I. The detail of the John Deere 5050D tractor used for field operations is given in Annexure- II and observations are summarized in the ensuing table:

Summary of Field Performance Test

S. No.	Parameters/operations	Range of observed value
1	Gear Used	L-1
2	Type of straw	Paddy straw
3	Average straw moisture content	30.4 to 33.3
4	Average speed of operation, kmph	2.27 to 2.37
5	Area covered, ha/h	0.302 to 0.311
6	Time required for one hectare, h	3.21 to 3.31
7	Field efficiency, %	78.3 to 83.7
8	Average weight of each bale, kg	20 to 22
9	No. of bale per hour	30 to 33
10	Output of bale	
	- t/h	0.628 to 0.726
	- t/ha	2.07 to 2.45
11	Straw recovery, %	89.4 to 92.5
12	Bale density, kg/m ³	180 to 200
13	Fuel consumption	
	- l/h	4.36 to 4.38
	- l/ha	14.03 to 14.50

6.1 Rate of work and fuel consumption

- The rate of work was recorded as 0.302 to 0.311 ha/h, at forward speed of 2.27 to 2.37 kmph.
- The time required to cover one hectare was recorded as 3.21 to 3.31 h.
- The fuel consumption was recorded as 4.36 to 4.38 l/h and 14.03 to 14.50 l/ha.
- Number of bale output was recorded as 30 to 33 bales/h with bale weighing ranging from 20 to 22 kg.

6.2 Quality of work

- Field efficiency and straw recovery was observed as 78.3% to 83.7% and 89.4% to 92.5%
- Bale density was recorded as 180 to 200 kg/m³.

6.3 Adequacy of power of prime mover:

The power of prime mover was found adequate.

7. EASY OF OPERATION AND ADJUSTMENTS

No noticeable difficulty was observed during 25.2 hours of operation of the machine.

8. DEFECTS, BREAKDOWNS AND REPAIRS

During testing of the machine, after completion of 25.2 hours no noticeable breakdown was observed during the field test.



9. LABOUR REQUIREMENTS

One skilled operator is required with the tractor to operate the machine.

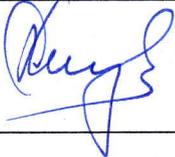
10. WORKMESHIP AND FINISHING

The metallic parts of the Baler are painted by good quality anticorrosive rust preventing paint. The welding are free from pits, burrs and other defects, well finished, smooth, free from sharp edge and satisfactory in all respect. The machine is handy in operation by the hydraulic system, attachment & detachment is easy, service & maintenance is trouble-free.

11. COMMENTS AND RECOMMENDATIONS

- 11.1 Dimensions of PIC and PIC yoke bore of machine dose not conform to IS: 4931-1995 and therefore, it should be looked into for corrective action.
- 11.2 The machine should be provided with minimum cautionary notices as per BIS, written in vernacular language legibly and prominently on the main body of the machine for guidance as well as ensure safety.
- 11.3 **Labeling of the Machine:**
Labeling Plates are provided on the body. However, the information provided was insufficient as per the relevant codes. This should be looked into.
- 11.4 **Technical literature:**
Operator cum Service Manual & Parts Catalogue was provided along with the machine during the course of testing. It is recommended to bring out manuals in Hindi and other vernacular languages as per IS: 8132-1999.

TESTING AUTHORITY

S. G. PAWAR AGRICULTURAL ENGINEER	
K.K. NAGLE DIRECTOR	

Report compiled by -

Sh. Rahul Prajapati

12. APPLICANT'S COMMENTS

Para No.	Our reference	Applicant's Comments
12.1	11.1	We will work on that and make it as per IS.
12.2	11.2	We will work on that and make it as per IS.
12.3	11.3	We will work on that and make it as per IS.