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व्यावसायिक परीक्षण रिपोर्ट
COMMERCIAL TEST REPORT

संख्या / No. : Imp. 91/135
माह / Month : July, 2011



FIELDKING FK 200 ROTAVATOR (Tractor-mounted)



सत्यमेव जयते

भारत सरकार
GOVT OF INDIA

कृषि मन्त्रालय

MINISTRY OF AGRICULTURE

कृषि एवं सहकारिता विभाग

DEPARTMENT OF AGRICULTURE AND COOPERATION

उत्तर पूर्वी क्षेत्र कृषि यंत्र प्रशिक्षण एवं परीक्षण संस्थान

NORTH EASTERN REGION FARM MACHINERY TRAINING & TESTING INSTITUTE

विश्वनाथ चारिआलि, जिला-शोणितपुर (असम)

BISWANATH CHARIALI :: SONITPUR :: ASSAM, PIN - 784 176

Website: www.dacnet.nic.in/NERFMTTI

Ph. No. 03715-222094

E-Mail: fmti-ner@nic.in

Fax No: 03715-230358

FMTTI (NER), LHMMAK

ACC. NO. 1263 P.R.

DATE 8/8/11

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1. SCOPE OF TEST

The scope of test was to check and assess the following: -

1.1 LABORATORY TEST:

- Checking of specifications
- Hardness of soil engaging parts (Rotavator blades)
- Chemical analysis of critical components (Rotavator blades)
- Wear analysis of critical components

1.2 FIELD TEST:

- Rate of work
- Quality of work
- Ease of operation, maintenance and adjustments
- Labour requirement
- Defects, Breakdowns & Repairs

2. METHOD OF SELECTION

The implement was directly submitted by the applicant for test at this Institute, hence method of selection is not known.

3. TEST PROCEDURES

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|------|------------------------|---------------------------------------------------------------------|
| i) | IS: 6690-2002 | : Specifications for blades for rotavator for power tillers |
| ii) | IS: 4931-1995 | : Agricultural tractors-Rear Mounted PTO |
| iii) | IS: 4468 – 1997 (Pt-I) | : Agricultural wheeled Tractors - Rear Mounted three point linkage. |
| iv) | IS: 11531-2001 | : Test code for puddler |

4. SPECIFICATIONS

4.1 General:

Manufacturer : M/s Beri Udyog Pvt. Ltd.
Plot No. 100-101, HSIDC, Sector-3
Karnal – 132 001

Name of machine : Rotavator

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8. EFFECTIVENESS OF SEALINGS

After completion of dry & wet land operation for 26.42 and 15.75 hours respectively, the implement was dismantled for checking the effectiveness of sealing provided against ingress of dust, and water/mud in various sub-assemblies/components and also to check the conditions of components of the rotavator. The observations are as under:

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

- 9.1 The PTO drive shaft has two telescopic sections, to shorten or lengthen the drive shaft.
- 9.2 Depth adjustment can be made by raising or lowering the skids.
- 9.3 The PTO drive shaft is provided with shear bolt for safety during overload. A guard cover is also provided over the PTO drive shaft.
- 9.4 Implement does not have provisions to vary rotor shaft speed to cater to different soil and moisture conditions.

10. DEFECTS, BREAKDOWNS AND REPAIRS

- 10.1 After completion of 15.83 h, 21.33 h and 24.08 h of field operation, 2, 4 and 4 numbers of rotor blade fixing bolts broken respectively.
- 10.2 One number of rotor blade broken after 21.33 hours of dry land field testing.




11. COMMENTS AND RECOMMENDATIONS

- 11.1 The specifications of implement hitch do not conform to the IS: 4468 (Pt-I)-1997. Hence, it is recommended that implement should be provided with the hitch conforming to relevant Indian standards.

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- 11.2 Dimensions of PIC of implement do not conform to IS: 4931-1995 and should be looked into.
- 11.3 Dimensions of PIC Yoke bore of PTO drive shaft do not conform to the requirements of IS: 4931-1995. It should be looked into for corrective action.
- 11.4 Hardness and chemical composition of rotor blades do not conform to relevant Indian Standards. This needs to be looked into for corrective action.
- 11.5 Suitable stickers indicating the grade & change period of oil used in gear boxes should be pasted on Rotavator.
- 11.6 Power recommendation is given as 50-55 hp in the specification sheet whereas it is indicated as 55-65 HP on the labeling plate of implement, which is erroneous. Correct power should be recommended in both the manual and on the labeling plate.
- 11.7 It is recommended that arrangement for changing the rotor speed to suit various soils and moisture condition should be provided.
- 11.8 Make, model, year of manufacture, size of implement and power requirement should also be indicated on the labeling plate.

TESTING AUTHORITY

H. L. YADAV AGRICULTURAL ENGINEER	
P. K. PANDEY SENIOR TEST ENGINEER	
M.K. VISHWAKARMA DIRECTOR	

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12. APPLICANT'S COMMENT

One copy of the draft test report was made available to the applicant. No comments, however, was received in this office.