

STF COPY

व्यावसायिक परीक्षण रिपोर्ट
COMMERCIAL TEST REPORT

संख्या / No. : Imp. 86/129
माह / Month : March, 2011



Fieldking FK 150 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

Fax No: 03715-222374

E-Mail: fmti-ner@nic.in

Imp. 86/129	Fieldking FK 150 Rotavator (Tractor-mounted) [Commercial Test]	1
-------------	--	---

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

- i) IS: 6690-2002: Specification for blades for rotavator for power tillers.
- ii) IS: 4931-2004 -- 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(Haryana)-132001
Name of machine	: Rotavator
Type	: Tractor-mounted
Make	: Fieldking

Imp. 86/129	Fieldking FK 150 Rotavator (Tractor-mounted) [Commercial Test]	15
-------------	--	----

8 EFFECTIVENESS OF SEALINGS

After completion of dry & wet land operation for 30.98 and 15.01 h 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 propeller 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 propeller shaft is provided with shear bolt for safety during overload.
- 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 Side draft (towards RHS) was observed during operation.
- 10.2 One rotor bolt was found broken after completion of 45.99 h of test operation.




11. COMMENTS AND RECOMMENDATIONS

- 11.1 The specifications of implement hitch does 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 standard.
- 11.2 The dimensions of splined end pinion shaft and propeller shaft insert dimensions does not conform to IS: 4931-2004. This should be looked into for corrective action.

Imp. 86/129	Fieldking FK 150 Rotavator (Tractor-mounted) [Commercial Test]	16
-------------	--	----

- 11.3 The grade and change period of oil used in gear boxes of rotavator, should be given in the printed literature and suitable sticker should also be pasted on rotavator.
- 11.4 The chemical composition of rotor blades does not conform to the Indian Standards. Therefore, it should be looked into for corrective measures.
- 11.5 Hardness of rotor blades does not conform to relevant Indian Standards. This needs to be looked into for corrective action.
- 11.6 It is recommended that arrangement for changing the rotor speed to suit various soils and moisture condition should be provided.
- 11.7 The labeling plate need to be provided with implement to indicate the particulars like make, model, year of manufacture.
- 11.8 **Adequacy of literature:** It is recommended that operator's manual, service manual and spare parts catalogue should be provided in English, Hindi and other regional languages as per IS: 8132-2004.

TESTING AUTHORITY

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

Imp. 86/129	Fieldking FK 150 Rotavator (Tractor-mounted) [Commercial Test]	17
-------------	--	----

12. APPLICANT'S COMMENTS

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