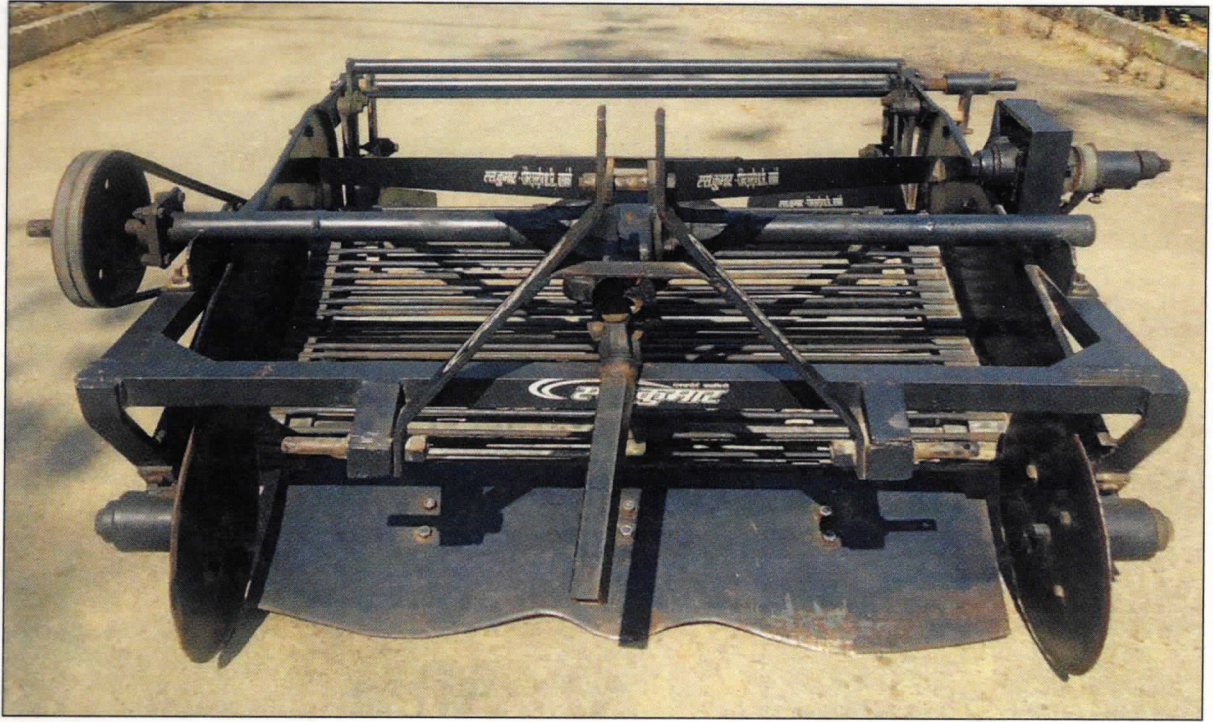


व्यावसायिक परीक्षण रिपोर्ट  
COMMERCIAL TEST REPORT

1010-2

संख्या / No. : Imp.128/175  
माह / Month: May, 2013



### S. KUMAR POTATO DIGGER



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

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**5. SPECIFICATIONS****5.1.1 GENERAL**

Name and address of manufacturer : Gobind Industries Pvt. Ltd.  
 Name of the machine : Potato Digger (Tractor Drawn)  
 Type : Not provided  
 Make : S. Kumar  
 Serial No. : Not provided  
 Model : S. Kumar  
 Year of manufacturer : Not provided

**5.1.2 Brief specification of prime mover used:**

Type : Agricultural Tractor  
 Make & Model : L & T JD 5310  
 Chassis No. : 5310S006207  
 Engine No. : PY3029D112007  
 Maximum PTO power Kw (ps) : 40.8  
 Engine speed for field operation : Not recommended  
 recommended by applicant(rpm)

**5.2.1 BLADE (old):**

Type : "V" type edge  
 Number : One  
 Width(mm) : 1133  
 Inclination(°) : 30  
 Clearance from ground(mm)  
     - Maximum : 33  
     - Minimum : 14  
 Clearance from transmission shaft : 465  
 casing(mm)  
 Thickness(mm) : 4.97  
 Distance from centre to centre of : 660  
 blades(mm)

**5.2.2 BLADE (new):**

Type : "V" type edge  
 Number : One  
 Width(mm) : 1155  
 Inclination(°) : 30  
 Clearance from ground(mm)  
     - Maximum : 35  
     - Minimum : 10

**10. EASE OF OPERATION ADJUSTMENT & SAFETY**

The propeller shaft has telescopic sections with universal joints to adjust the length of drive shaft which is adequate.

**11. DEFECTS, BREAKDOWN & REPAIRS**

- 11.1 After completion of 1hr operation, the digger blade became bend for 2 times possibly due to less thickness 4.97 mm of blade and then it was replaced by new one of thickness 8.04 mm with due permission of the authority and request made by the applicant.
- 11.2 The shaker arm got detached from frame for 3 times.
- 11.3 The transmission belt became loose during 2 hrs. of operation. While it was tightened the original belt got broken, further, replaced by new one of Poly-F PLUS B-2200/B 85 PB size.
- 11.4 When the belts were tightened the conveyor belt got touched with the shaker. Further the shaker need to tight somewhat backward from the original position.
- 11.5 The bolt provided for tightening the conveyor got broken during tightening, further, it was replaced by new one.

**12. COMMENTS & RECOMMENDATIONS**

- 12.1 Lower hitch point span of three point linkage of the implements does not conform to IS 4468-2001 (pt-I). This has to be looked into for improvement at production level.
- 12.2 The propeller shaft does not have safety shield which needs to be provided for the safety of user/operator.
- 12.3 It is recommended to have provision for change in conveyor speed to suit wider range of soil and soil moisture conditions.
- 12.4 Manuverability of tractor with potato digger was found to be satisfactory. The quality of work was observed satisfactory.
- 12.5 Wear of blade/cutting discs: The percentage wear of cutting disc and blade on mass basis during 20.8 hours of field operation ranged from 3.98 % to 4.34 % and 2.03% respectively. It is considered on higher side. Hence the quality of the metal should be improved.
- 12.6 Carbon and Silicon content of Blade is not within the required range as per IS: 6690-2002(Reaff.). This needs to be looked into for corrective action.
- 12.7 The quality of welding joints is not found satisfactory. It needs to be improved at production level.
- 12.8 It has been observed the frequent loosening of nuts and bolts from the frame. It is recommended to provide the proper locking device for nuts and bolts.
- 12.9 Initially provided digger blade became bend for two times due to less thickness of 4.97 mm which was improved with 8.04 mm thickness blade. Hence it is recommended that it should be continued at production level.

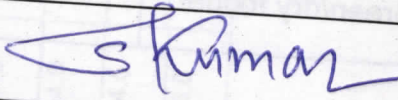
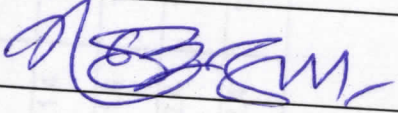
**13. ADEQUACY OF LITERATURE**

Literature is not provided with the machine except one booklet, which comprises only the figure of the machine. The specifications, salient features, servicing and maintenance schedule and precautions should be provided for the guidance of farmers and field personnel.

**14. APPLICANT'S COMMENTS**

The applicant has no comments on the machine

**TESTING AUTHORITY**

Sanjay Kumar, Agril. Engineer	
M. K. Vishwakarma Director	

Test conducted and report compiled by Shri P. C. Dihingia, Instructor

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