



Farm Machinery Testing and Training Centre
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SPECIFICATION SHEET OF TRACTOR OPERATED POWER HARROW

1	General:		
	Name & address of manufacturer	:	
	Name & address of applicant	:	
	Type	:	
	Make	:	
	Model	:	
	Serial No	:	
	Year of manufacture	:	
	Tractor horse power required, hp	:	
	Type of blade	:	
	Nominal size, mm	:	
2	Prime mover used		
	Tractor	:	
	Min PTO Power, kW	:	
3	Constructional Details		
3.1	Main frame		
	Type	:	
	Size of box section, mm	:	
	Size of front support, mm	:	
	Type of mounting box section	:	
3.2	Side support		
	Number	:	
	Material	:	
	Thickness of plate, mm	:	
	Size, mm	:	

	Method of fixing	:	
4	Trailing board		
	Type	:	
	Material	:	
	Size of board, mm	:	
	Thickness of sheet, mm	:	
	Adjustment	:	
5	Rotor shaft		
	Material	:	
	Type of rotor axle	:	
5.1	Flange		
	No. of flanges	:	
	Type of flanges	:	
	Dia. of flange, mm	:	
	Thickness of flange, mm	:	
	No. of blades on each flange	:	
	Method of mounting blades on flange	:	
	Distance between two flanges, mm	:	
	Dia. of rotor with blades, mm	:	
5.2	Rotor Blade		
	Total no number of blades	:	
	Type	:	
	Material	:	
	Overall thickness, mm	:	
	Thickness at beveled edge, mm	:	
	Length of the beveled edge, mm	:	
	Speed of rotor shaft corresponding to 540 rpm of PTO shaft, rpm	:	
6	Depth control mechanism		
6.1	Pivoted Cage Roller		
	Type	:	
	Size, mm	:	
	Method of mounting	:	

7	Three point linkage: (Refer Fig.1) Three point linkage dimensions, mm				
	Sr. No.	Notation	As per IS:4468-2001 (Cat-I/Cat-II)	As measured	Remarks
	I	Upper hitch point			
	a)	Diameter of hitch pin (A)	18.92 to 19.00/ 25.37 to 25.50		
	b)	Diameter of hitch pin hole (B)	19.30 to 19.50/ 25.70 to 25.91		
	c)	Linch pin hole distance (D)	76.00 (Min.)/ 93.00 (Min.)		
	d)	Width between outer faces of yoke (E)	44.50 (Min.)/ 52.00 (Min.)		
	e)	Width inner faces of yoke (F)	69 (Max.)/ 86 (Max.)		
	II	Lower hitch points			
	a)	Diameter of hitch pin	21.8 to 22.00/ 27.8 to 28.00		
	b)	Diameter of hitch pin hole (H)	22.4 to 22.65/ 28.7 to 29.00		
	c)	Linch pin hole distance (K)	39.00 (Min.)/ 49.00 (Min.)		
	III	Dia. of linch pin hole			
	a)	Upper hitch pin (L)	12.00 (Min)		
	b)	Lower hitch pin (L)	12.00 (Min)		
	IV	Mast height	458.5 to 461.5/ 608.5 to 611.5		
	V	Lower hitch point spans (N)	681.5 to 684.5/ 823.5 to 826.5		

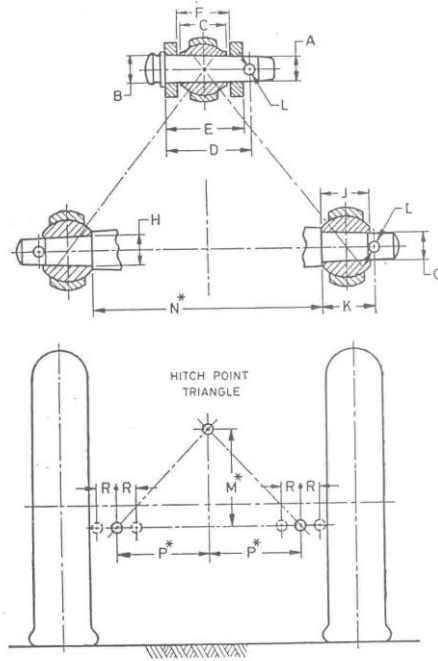


Fig. 1 Dimensions of Hitch points

7.1	Mast			
	Type	:		
	Size of flat, mm (L x B x T)	:		
	Shape	:		
8	Lubricants			
	Reduction Gearbox	:		
	Lubricant Change Period	:		
	Gear Train	:		
9	Power transmission system			
	Method of transmission	:		
9.1	Dimensions of Splined end of pinion shaft, mm (Refer Fig. 2)			
	Specification	As per IS: 4931-2004	As observed	Remarks
	1	2	3	4
	DΦ	34.79±0.06		
	dΦ	28.91±0.05		
	BΦ	29.4±0.1		
	S	8.69		

R	6.7±0.25		
α	30°		
G	7		
H	38		
A	54 (Min.)		
B	76 (Min.)		
I	25±0.5		
J (optional hole)	8.3		

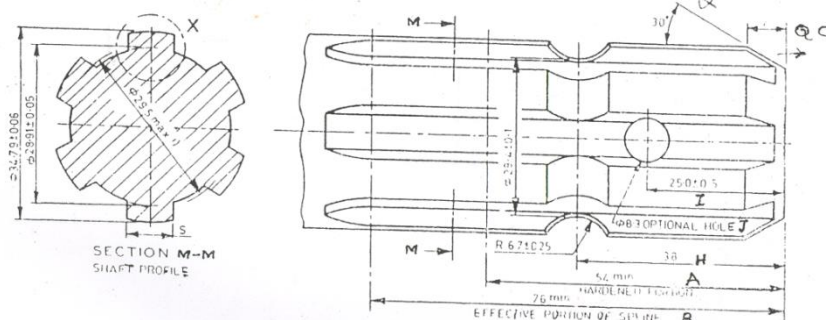


Fig. 2: Dimensions of Implement Power Input Shaft, mm

9.2	Gear box assembly (primary reduction): Multi Speed		
	Type	:	
	Spur	:	
	No. of teeth on drive gear	:	
	No. of teeth on driven gear	:	
	Bevel and Pinion	:	
	Bevel	:	
	Pinion	:	
	Optional gear (Spur gear set)	:	
	Reduction ratio at gear box	:	
	Oil capacity, lit	:	
	Oil change period, h	:	
	Length of power transmission shaft, mm (from gear box to secondary	:	

	reduction unit)				
	Diameter of shaft, mm	:			
	Provision of breather	:			
	Provision for Dipstick	:			
	Nos. of bearing	:			
9.2	Gear box (secondary reduction)				
	Type	:			
	No. of Gears	:			
	Type of gears	:			
	No. of teeth on drive gear	:			
	No. of teeth on driven gear	:			
	No. of teeth on idle gear	:			
	Reduction ratio	:			
	Grease capacity, kg	:			
	Grease change period, h	:			
	Grease level checking bolt	:			
	No. of bearing	:			
9.3	Propeller shaft				
	Type: - Telescopic (with two segments) having one universal joint on each segment with splined ends to insert the PTO of tractor and drive shaft of bevel box.				
	Length of the shaft, mm:	:			
	-Minimum	:			
	-Maximum	:			
	Mass of shaft, kg	:			
	Provision for locking	:			
9.3.1	Propeller shaft				
	Propeller shaft insert dimension (Refer Fig.3):				
	S. No.	Notations	Dimensions (mm)		Conformity to IS
			As per IS: 4931-2004	As observed	
	1	Dφ	34.93 ± 0.03		
	2	dφ	29.7 ± 0.1		
	3	W	8.69		
	4	B	54 (min)		

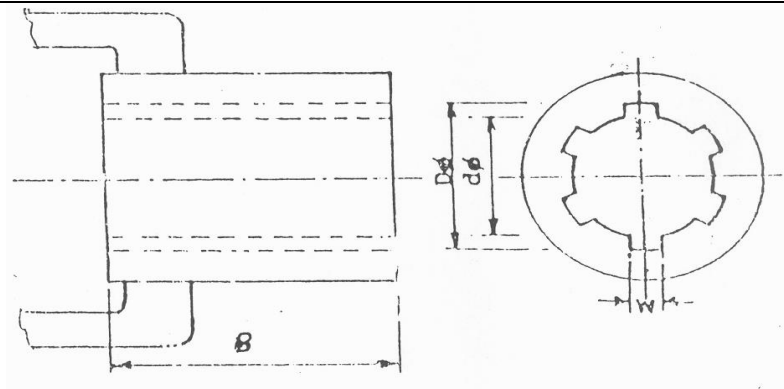


Fig. 3: Propeller Shaft Insert Dimensions, mm

10	Stand		
	Safety clutch/device	:	
11	Overall Dimensions (L x B x H), mm	:	
12	Mass of the Machine, kg	:	

Place:

Date:

Signature : _____

Name : _____

Designation: _____