Farm Machinery Testing, Training and Demonstration Centre

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SPECIFICATION SHEET OF TRACTOR OPERATED ROTARY HARROW

1.0	**General**	:	
a)	Name	:	
b)	Type	:	
c)	Make	:	
d)	Serial Number	:	
e)	Model	:	
f)	Year of manufacture	:	
g)	Name and address of manufacture	:	
h)	Source of power	:	
i)	Recommended power of tractor, if tractor operated	:	
j)	Selling price in India	:	

2.1	**Gang frame:**			
	a)	Type and material	:	
	b)	Size of MS pipe (mm)	:	
	c)	Method of fixing	:	
2.2	**Weight box:**:			
2.3	**Side support/plate:**			
	a)	Number and material		
	b)	Thickness (mm)		
	c)	Size (mm)		
	d)	Method of fixing		
	e)	No. of bearing		
2.4	**Scraper assembly:**			
	a)	Type and material	:	
	b)	Number	:	
	c)	Size of scrapper (mm)	:	
	d)	Location	:	
	e)	Adjustment	:	
2.5	**Gang shaft:**			
	a)	Type and material	:	
	b)	Length of shaft (mm)	:	
	c)	Dia. of shaft (mm)	:	
	d)	Length of threaded portion (mm)	:	
	e)	Dia. of threaded portion (mm)	:	
2.6	**Disc gang:**			
	a)	Number	:	
	b)	No. & type of disc in each gang	:	
	c)	Bearings	:	
	d)	Method of mounting of each disc	:	
	e)	Method of changing the gang angle		
	f)	Method of fixing one gang frame to another	:	
2.7	**Gang angle:**			
	a)	Angle made between axis of the gang and the line perpendicular to the direction of motion (deg.)	:	

2.8	**Spool:**			
	a)	Type and no. of spools	:	
	b)	Length (mm)	:	
	c)	Diameter (mm)	:	
	d)	Material	:	
	e)	Dia. of spool with collar		
		Big end	:	
		Small end	:	
		Middle of spool	:	
	f)	Method of mounting	:	
	g)	Type of key	:	
	h)	Size of key (mm)	:	
2.9	**Bumper:**			
	a)	Type	:	
	b)	Size (mm)		
		Diameter	:	
		Thickness	:	
2.10	**Furrow wheel / Land wheel:**			
	a)	Number and material		
	b)	Size (mm)		
	c)	Method of fixing		
2.11	**Disc (Refer Fig. 1):**			
	a)	Type and no.		
	b)	Method of fixing		

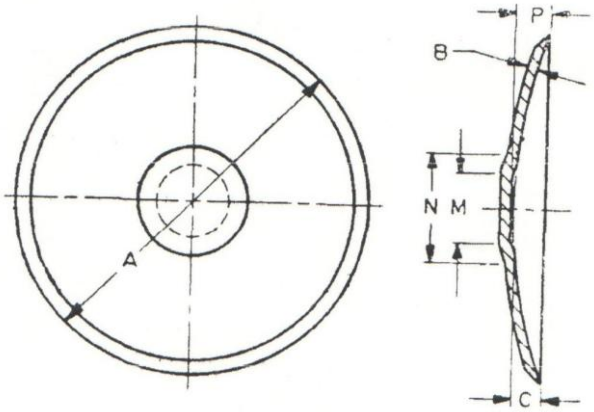

Fig. 1 Concave Flat Centred Disc

Sr.	Specification	Size
1	Nominal size A	
2	Thickness B	
3	Concavity C	
4	M	
5	N	
6	P	
7	Diameter of central hole	
8	Pitch circle diameter	
9	Number of holes	
10	Bevel angle	
11	Marking on disc	
	a) Manufacturer's name or recognized trade-mark if any	
	b) Batch / code no.	

2.12	**Type of hitch and its details :**			
	a)	Type and material	:	
	b)	Shape	:	

Specification of Hitch Pyramid As per IS: 4468-1997 (Part-I)

Sr.	Dimension (Refer Fig.2)	Description	Measurement
Upper Hitch attachments			
1	d_1	Diameter of hitch pin hole	
2	b'_1	Width between inner faces of yoke	
3	b'_2	Width between outer faces of yoke	
Lower hitch points			
4	D_2	Dia. of hitch pin	
5	b'_3	Linch pin hole distance	
6	l	Lower hitch point span	
Other dimensions			
	Diameter of linch pin hole		
7	d	For upper hitch pin	
8		For lower hitch pin	
9	h	Mast height	

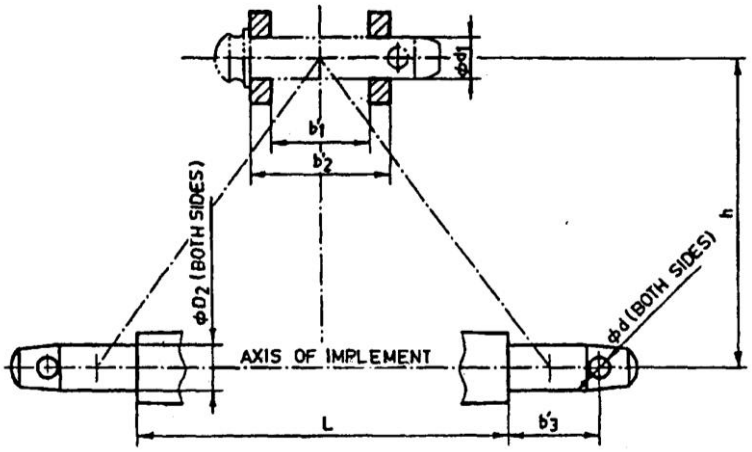

Fig. 2 : Implement Hitch Attachment

2.13	**Power transmission system:**			
	a)	Method of transmission	:	
2.13.1	**Spline end of rotavator input shaft:**			**Ref. Fig.3**

Dimension of Implement Power Input Shaft As per IS: 4931-2006

Sr.	Specification/ Notations (Refer Fig.3)	Measurement
1	PTO Type	
2	Nominal speed (rpm)	
3	Nominal dia.(mm)	
4	Number and type of splines	
Dimensions (mm)		
5	D Φ	
6	d Φ	
7	B Φ	
8	A Φ	
9	W	
10	a	

11	b	
12	c	
13	x	
14	B	
15	h	

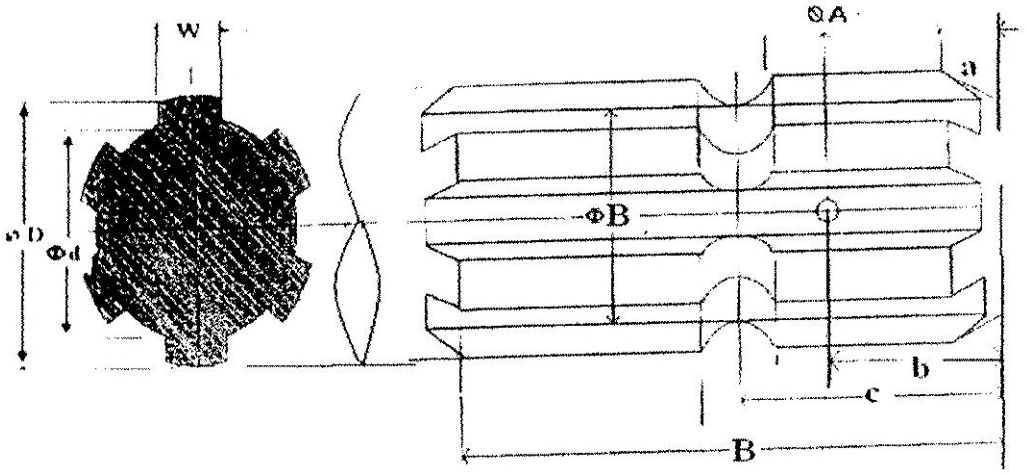

Fig. 3 Dimension of Implement Power Input Shaft

2.13.2	**Gear box assembly (primary reduction):**			
	a)	Type	:	
	b)	No. of teeth on pinion		
	c)	No. of teeth on bevel gear	:	
	d)	Reduction ratio at gear box	:	
	e)	Oil capacity (L)	:	
	f)	Oil change period	:	
	g)	Recommended grade of oil		
	h)	Length of power transmission		
	i)	Shaft (mm) (from gear box to secondary reduction unit)		
		Dia of shaft (mm)		
	j)	Provision of breather		
	k)	No. of bearing		
2.13.3	**Gear box assembly (secondary reduction):**			
	a)	Type		
	b)	No. of teeth on drive gear		
	c)	No. of teeth on driven gear		
	d)	Reduction ratio		
	e)	No. of teeth on idler gear		
	f)	Oil capacity (L)		
	g)	Oil change period (hrs.)		
	h)	No. of bearing		
2.13.4	**Propeller shaft:**			
	a)	Type and material		
	b)	Length of shaft (mm)		
		Minimum		
		Maximum		
	c)	Mass of shaft (kg)		
	d)	Provision for locking		

Propeller Shaft Insert Dimensions As per IS: 4931-2006

Sr.	Notations (Refer Fig.4)	
1	D Φ	
2	d Φ	
3	W	
4	B	

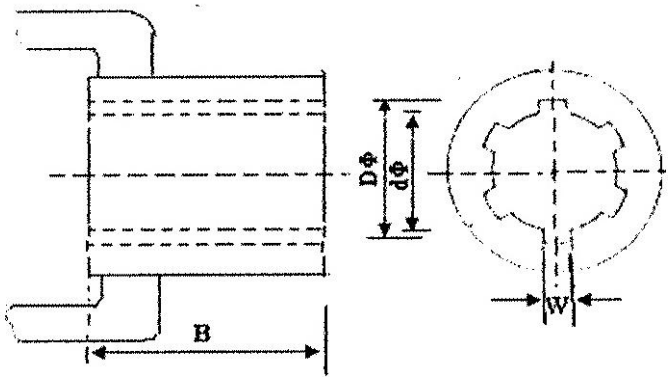

Fig. 4 : Propeller Shaft Insert Dimensions

2.13.5	**Safety clutch/device:**			
	Size of bolt(mm) :		:	
	a)	Length	:	
	b)	Dia.	:	
	c)	Pitch	:	

2.14	Arrangement of transport	:	

3	**Overall dimensions (mm) :**			
	a)	Length	:	
	b)	Width	:	
	c)	Height	:	
	d)	Mass, (kg)	:	
4	**Color of implement**		**:**	
5	**Material used**			

Sr.	Name of components	Material
1	Frame	
2	Gang axle	
3	Spool	
4	Scraper	
5	Gang angling mechanism	
6	Transport wheel	
7	Loading platform , if provided	
8	Draw bar /hitch	
9	Gang bearing	
10	Hitch pin	
11	Discs	

Place:
Date:

Signature : _____

Name : _____

Designation: _____