



# FARM MACHINERY TESTING CENTRE

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## SPECIFICATION SHEET OF TRACTOR OPERATED ROTARY HARROW

1.0	<b>General</b>		:	
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	<b>Gang frame:</b>			
	a)	Type and material	:	
	b)	Size of MS pipe (mm)	:	
	c)	Method of fixing	:	
2.2	<b>Weight box::</b>			
2.3	<b>Side support/plate:</b>			
	a)	Number and material	:	
	b)	Thickness (mm)	:	
	c)	Size (mm)	:	
	d)	Method of fixing	:	
	e)	No. of bearing	:	
2.4	<b>Scraper assembly:</b>			
	a)	Type and material	:	
	b)	Number	:	
	c)	Size of scraper (mm)	:	
	d)	Location	:	
	e)	Adjustment	:	
2.5	<b>Gang shaft:</b>			
	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	<b>Disc gang:</b>			
	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	<b>Gang angle:</b>			
	a)	Angle made between axis of the gang and the line perpendicular to the direction of motion (deg.)	:	
2.8	<b>Spool:</b>			

	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	<b>Bumper:</b>			
	a)	Type	:	
	b)	Size (mm)	:	
		Diameter	:	
		Thickness	:	
2.10	<b>Furrow wheel / Land wheel:</b>			
	a)	Number and material	:	
	b)	Size (mm)	:	
	c)	Method of fixing	:	
2.11	<b>Disc (Refer Fig. 1):</b>			
	a)	Type and no.	:	
	b)	Method of fixing	:	

IS : 4366 ( Part 1 ) - 1985

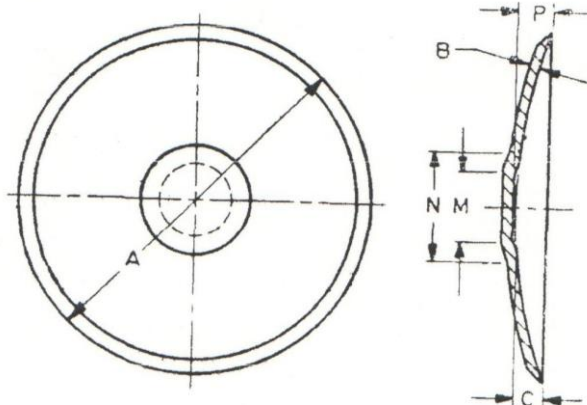


FIG. 3 CONCAVE FLAT CENTRED DISC

Fig. 1

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 :	
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	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	

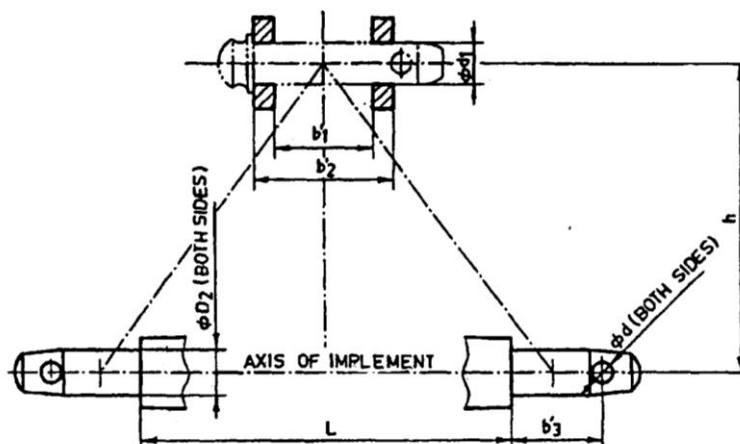


Fig. 2 : Implement Hitch Attachment

2.13	<b>Power transmission system:</b>		
	a)	Method of transmission	:
2.13.1	<b>Spline end of rotavator input shaft:</b>		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	$D \Phi$	
6	$d \Phi$	
7	$B \Phi$	
8	$A \Phi$	
9	$W$	
10	$a$	
11	$b$	

12	c	
13	x	
14	B	
15	h	

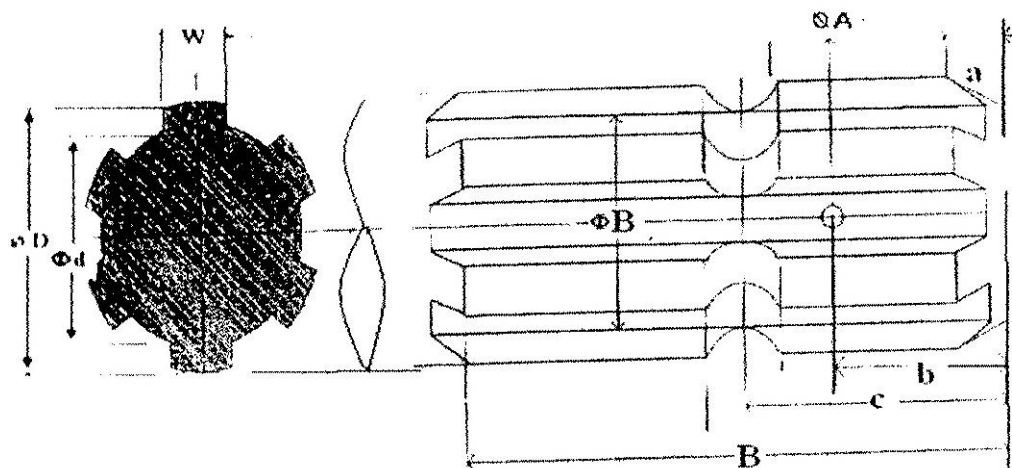


Fig. 3 Dimension of Implement Power Input Shaft

2.13.2	<b>Gear box assembly (primary reduction):</b>		
	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	<b>Gear box assembly (secondary reduction):</b>		
	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	<b>Propeller shaft:</b>		
	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 $\Phi$	
2	d $\Phi$	
3	W	
4	B	

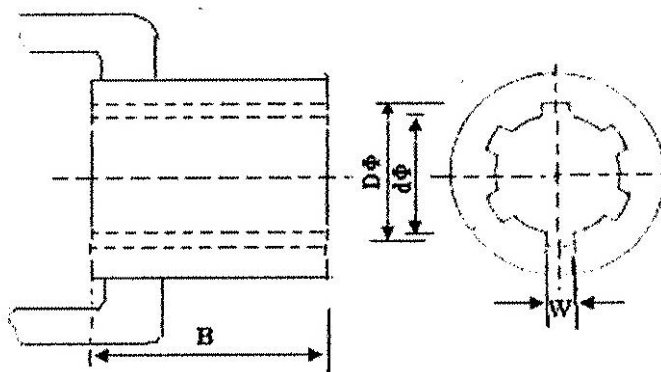


Fig. 4 : Propeller Shaft Insert Dimensions

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

2.14	Arrangement of transport	:	
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<b>3</b>	<b>Overall dimensions (mm) :</b>		
	a) Length	:	
	b) Width	:	
	c) Height	:	
	d) Mass, (kg)	:	
<b>4</b>	<b>Color of implement</b>	:	
<b>5</b>	<b>Material used</b>		

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: \_\_\_\_\_