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SPECIFICATION SHEET OF TRACTOR OPERATED FERTILIZER BROADCASTER

1	**General**			
	Name & address of manufacturer		:	
	Name & address of applicant		:	
	Name of implement		:	
	Type		:	
	Make		:	
	Serial Number		:	
	Model		:	
	Year of manufacture		:	
	Recommended power source		:	
	Power source used, kW		:	
2	**Main frame / Chassis**			
	a)	Type	:	
	b)	Size of box section, mm	:	
	c)	Size of supporting flat, mm	:	
	d)	Type of mounting of box section	:	
3	**Hopper**			
	a)	Shape	:	
	b)	Inner diameter of hopper, mm	:	
	c)	Hopper capacity, lit	:	
	d)	Material and thickness, mm	:	
	e)	Internal height at side, mm	:	
	f)	Internal height at centre, mm	:	
	g)	Size of hole at bottom, mm	:	
	h)	Bottom slope, degree	:	
	i)	Ratio between diameter and height of hopper	:	
	k)	Method of fixing the hopper with main frame	:	

4	**Agitator:**			
	a)	Shape	:	
	b)	Location	:	
	c)	Material and thickness, mm	:	
	d)	Size of agitator, mm	:	
	e)	Vertical clearance of agitator above the aperture, mm	:	
	f)	Arrangement for fixing of agitator to the centre shaft	:	
5	**Feed control mechanism**			
5.1	**Funnel**			
	a)	Shape	:	
	b)	Material and thickness, mm	:	
	c)	Size of hole, mm	:	
	d)	Outer dia. of cone, mm	:	
	e)	Cone slope, degree	:	
	f)	Arrangement for fixing of feed control of hopper	:	
5.2	**Feed control lever**			
	a)	Type	:	
	b)	Material and thickness, mm	:	
	c)	Size of lever, mm	:	
	d)	Arrangement for fixing of lever to feed control	:	
5.3	**Lever grip**			
	a)	Shape	:	
	b)	Material	:	
	c)	Size of plastic grip, mm	:	
	d)	Method of fixing the grip to hopper	:	
5.4	**Locking device (feed control)**			
	a)	Shape	:	
	b)	Material	:	
	c)	Size of grip, mm	:	
	d)	Arrangement for fixing of screw to hopper	:	
5.5	**Guide strip**			
	a)	Shape	:	
	b)	Material	:	
	c)	Size of strip, mm	:	
	d)	Arrangement for holding the	:	

		strip on hopper		
6	**Collar for spreading disc:**			
	a)	Shape	:	
	b)	Material	:	
	c)	Dia. of collar	:	
	d)	Length of collar, mm	:	
	e)	Thickness of collar, mm	:	
	f)	Arrangement for fixing of collar to centre shaft and spreading disc	:	
7	**Spreading disc:**			
	a)	Shape	:	
	b)	Material	:	
	c)	Dia. of disc, mm	:	
	d)	Width of outer edge, mm	:	
	e)	Vertical clearance below the hopper bottom, mm	:	
	f)	Thickness of disc, mm	:	
	g)	Direction of rotation	:	
	h)	Arrangement for fixing of disc to collar	:	
8	**Fins**			
	a)	Shape	:	
	b)	Material	:	
	c)	No. of fins	:	
	d)	Size of fins, mm	:	
	e)	Spacing between two fins at outer edge, mm	:	
	f)	Arrangement for fitting of fins to spreading disc	:	
9	**Drive mechanism**			
9.1	**Centre shaft**			
	a)	Shape	:	
	b)	Material	:	
	c)	Diameter, mm	:	
	d)	Length, mm	:	
	e)	Arrangement for fixing of centre shaft to main frame	:	
9.2	**Driven gear**			
	a)	Type	:	
	b)	Material	:	
	c)	No. of teeth	:	

	d)	Method of firing the gear with shaft	:	
9.3	**Gear shaft**			:
	a)	Type	:	
	b)	Material	:	
	c)	Diameter, mm	:	
	d)	Length, mm	:	
	e)	Arrangement for fixing the gear shaft to main frame	:	
9.4	**Intermediate gear**			
	a)	Type	:	
	b)	Material	:	
	c)	No. of teeth	:	
	d)	Arrangement for fixing the gears to gear shaft	:	
9.5	**Crank rod**			
	a)	Shape	:	
	b)	Material	:	
	c)	Diameter, mm	:	
	d)	Length, mm	:	
	e)	Arrangement for fixing of crank rod	:	
9.6	**Drive gear on crank rod**			
	a)	Type	:	
	b)	Material	:	
	c)	No. of teeth	:	
	d)	Gear ratio between drive and intermediate bevel gear	:	
	d)	Arrangement for fixing of drive gear on crank shaft	:	
9.7	**Crank bolt**			
	a)	Type	:	
	b)	Material	:	
	c)	Size of crank bolt (mm)	:	
	d)	Pitch (mm)	:	
	e)	Size of threaded locking bolt (mm)	:	
	f)	Arrangement for fixing crank bolt	:	
9.8	**Crank**			
	a)	Shape	:	
	b)	Material	:	

	c)	Max. length of crank, mm	:	
	d)	Dia. of crank rod, mm	:	
	e)	Length of crank between the centre of crank shaft to centre of handle, mm	:	
	f)	Arrangement for fixing crank bolt and handle	:	
10	**Type of hitch and its details**			
	a)	Type and material	:	
	b)	Shape	:	

Three point linkage dimensions, mm (Refer Fig.1)

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		

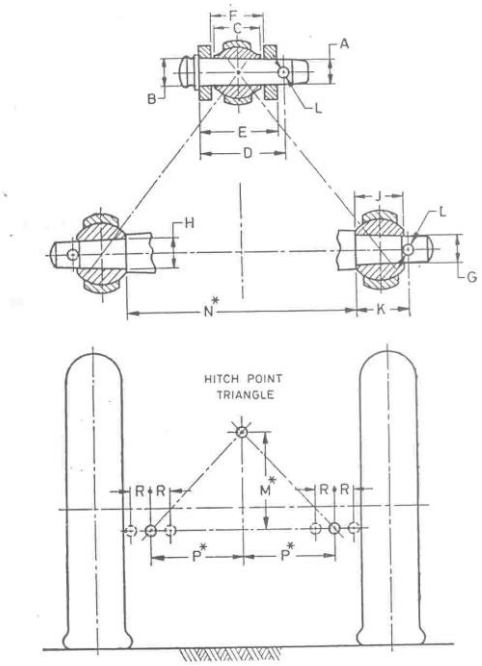

Fig. 1 Dimensions of hitch points

11	**Power transmission system:**		
	a) Method of transmission	:	
11.1	**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		

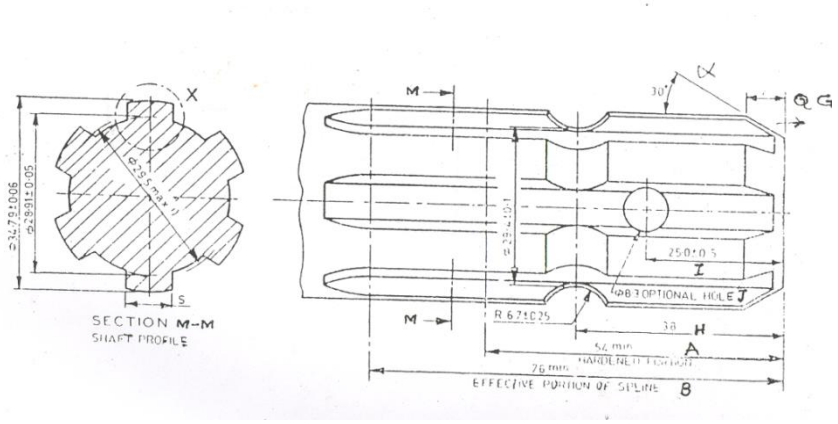

Fig. 2: Dimensions of Implement Power Input Shaft, mm

11.2	**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)	Length of shaft, mm (from gear box to secondary reduction unit)	:	
	j)	Dia of shaft, mm	:	
	k)	Provision of breather	:	
	l)	No. of bearing	:	
11.3	**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, hr	:	

	h)	No. of bearing	:	
11.4	**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 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)		

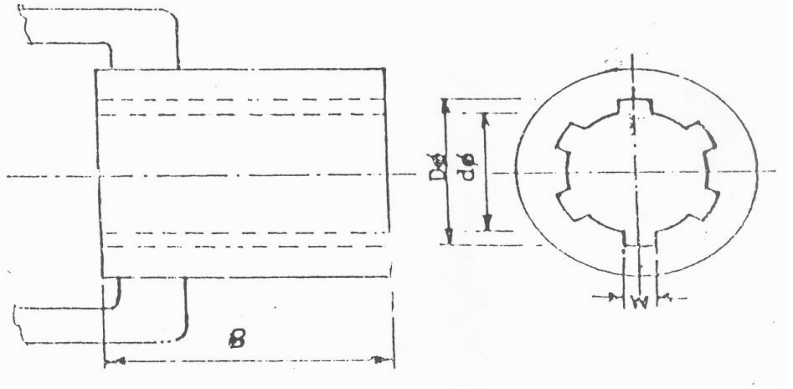

Fig. 3: Propeller Shaft Insert Dimensions, mm

12	**Stand**			
	a)	Safety clutch/device	:	
13	**Overall Dimensions** (L x B x H), mm		:	
14	**Mass of the Machine, kg**		:	
15	**Colour of implement**		;	

Place:
Date:

Signature:_____

Name :_____

Designation: _____