SPECIFICATON For Rice/Paddy Transplanter:-

5.1 General:

Name and address of manufacturer	:
Name and address of applicant	:
Name of the machine	:
Type	:
Make	:
Model	:
Size of transplatner, mm	:
Serial No.	:
Year of manufacture	:
Country of origin	:

5.2 Details of prime mover

Type	:
Make	:
Model	:
Serial No.	:
Country of origin	:
Max. power, kW/Ps	:
Rated speed, rpm	:
Maximum speed at no load, rpm	:
Low idle speed, rpm	:
Recommended engine speed for field operation, rpm	:

5.2.1 Cylinder & cylinder head

Number of cylinder :

Disposition :

Bore / Stroke, mm :

Capacity, cc :

Compression ratio :

Type of cylinder liner :

Type of cylinder head :

Arrangement of valves :

Valve clearance in cold condition, mm

Inlet :

exhaust :

5.2.2 Fuel supply system

Type of feed system :

Type of feed pump :

Min. free flow, cm^3/min. :

Rated voltage, v (apa) :

Operating current, A (apa) :

Mass, g (apa) :

Sedimentation bowl :

5.2.2.1 Fuel Tank

Capacity of fuel tank, l :

Location of fuel tank :

Material of fuel tank :

5.2.2.2 Fuel Filter

Make :

Type :

5.2.2.3 Fuel Injection pump

Make :

Model :

Type :

Method of drive :

5.2.2.4 Fuel injectors

Make :

Model :

Type :

Manufacturer's production pressure setting, MPa (kg/cm^2) :

Injection timing :

Firing order :

5.2.3 Governor

Make :

Model :

Type :

Governed range of engine speed, rpm :

Rated engine speed, rpm :

5.2.4 Air Intake System

5.2.4.1 Pre-cleaner :

5.2.4.2 Air cleaner

Make :

Type of air cleaner :

Number :

Size of dry filter element, mm

Inner dia :

Outer dia :

Length :

Suction pressure of intake manifold, mm of Hg :

Recommended service schedule, h (apa) :

Location :

5.2.5 Exhaust

Type :

Location :

Exhaust gas pressure, mm of Hg :

5.2.6 Lubrication System

Type :

Number and type of oil filter :

Type of lubricating oil pump :

Engine sump capacity, l :

Minimum permissible Lubricating oil pressure, kg/cm^2 :

Relief valve pressure setting, kg/cm^2 :

Max. oil temperature, ^0C :

Provision of oil level checking :

Recommended grade of lubricating oil, apa :

Oil change period, h :

5.2.7 Cooling System

Type :

Details of blower :

Details of fan :

Means of temperature control :

5.2.7.1 Radiator

Make :

Bare radiator capacity, l :

Total coolant capacity, l :

Expansion tank capacity, l :

Size of radiator, mm

length :

Width :

Thickness :

Number of tubes :

Type of radiator cap :

Method of mounting :

Maximum permissible coolant temperature, ^{0}C :

5.2.8 Electrical system

5.2.8.1 Alternator

Make :

Output rating, apa :

Location :

Method of drive :

5.2.8.2 Battery

Make :

Type :

Capacity and rating :

Number :

Location :

5.2.8.3 Starting Motor

Make :

Model :

Volt :

Type :

5.2.8.4 Lighting System

Description	No. and capacity of bulbs	From the ground level (mm)	Size of beam	Distance from centre of beam to outside edge of machine (mm)
Head Lights				
Rear seedling lights				
Turn indicators				

5.2.8.5 Horn :

5.2.8.6 Fuse Box

	Location	:
	Number and capacity of fuses	:
5.2.8.7	**Engine mounting frame**	
	Type	:
	Shape	:
	Size, mm	:
	Thickness of sheet, mm	:
	Size of slots, mm	:
5.3	**Transmission system (Refer Fig. I)**	
5.3.1	**Hydrostatic transmission**	:
	Input to swash plate shaft	:
	Power transmission from swash plate	:
	Power transmission from variable displacement pump	:
	Oil capacity of transmission system, l	:
	Type of transmission system	:
	Mode of operation	:
	Location	:
5.4	**Wheel clutch**	:
	Make	:
	Type	:
	Size in mm	

Inner dia :

Outer dia. :

Width of frictional material, mm :

Number of plate in each side :

Method of operation :

5.4.1 Planting Clutch

Make :

Type :

Mode of operation :

Location of lever :

5.4.2 Gear Box

Make :

Type :

5.4.2.1 Detail of gear box :

5.4.2.2 Drive details

Mode of operation :

Location of lever :

Recommended grade of lubricants, apa :

Oil capacity, l (apa) :

Oil change period :

Nominal Speed:

No. of speed, kmph.

	On field	On Road
Forward :		
Reverse :		

5.5 Final drive

Make :

Type :

No. of teeth on 1st pinion gear :

No. of teeth on 1st crown gear :

No. of gears upto final drive :

No. of of teeth of final drive gears :

Reduction ratio :

Oil capacity, l (apa) :

Recommended grade of oil, apa :

Oil change period, h :

No. and type of bearing :

At differential unit

At axle shaft

5.6 Front wheel drive

Type :

No. of teeth on input shaft gear

For traveling :

For planting :

No. of gears upto final drive :

No. of teeth on final drive gear :

Reduction ratio :

Oil capacity, l :

Recommended grade of oil :

Oil change period, h :

No. and type of bearing :

5.7 Hydraulic system

Type of pump :

Make :

Number :

Drive details :

Location :

Capacity of hydraulic tank, l :

No. of hydraulic cylinder :

Type of hydraulic tank :

Provision of oil filling, oil level checking and breather :

Distributor :

5.8 Steering

Make :

Type of steering :

Type and details of pump :

Type of steering system :

Method of operation :

Outer diameter of steering control wheel, mm :

5.8.1 Wheel equipment (drive wheels)

Number :

Location :

Method of mounting :

Wheel diameter, mm

Front :

Rear :

Type :

Number of moulded lugs on front wheel :

Size of lugs, mm

Height :

Thickness :

width :

Number of moulded lugs on rear wheel

Hexagonal :

Polygonal :

Size of lugs, mm

Polygonal

Length :

Width :

Thickness :

Hexagonal

Length of each arm :

Height :

Track width, mm

Front :

Rear :

Wheel base, mm :

5.9 Planting system

Type :

Number of rows :

Spacing of rows, mm :

Method of changing of row to row distance :

Range of hill to hill spacing, mm :

Arrangement for adjusting the number of hills to be planted (apa) :

No. of speeds available for planting arm :

Method of drive :

Method of changing number of seedling per hill or longitudinal feed rate of seedling mat :

5.9.1 Planting fingers

Number of fingers :

No. of speeds available for fingers :

Size , mm :

Length of beak , mm :

5.10 Feeding system

Seedling feeding stand

Type :

Material :

Size, mm :

Number of compartment :

Size of each compartment, mm

Length :

Width :

Inclination of tray :

Seedling platform drive :

5.11 Longitudinal feeding system

Type :

Number of belts :

Material :

Size of belt :

Seedling mat contact area, cm^2 :

Method of belt drive :

5.12 Seedling stay- Bars

Number :

Type :

Size, mm

Side Rods

Length :

Dia. :

Middle rods

Length :

Dia. :

5.12.1 Cross feeding system

Type :

Size of shaft, mm :

Length of stroke, mm :

Method of drive :

Maximum speed of seedling platform, m/sec. :

5.12.2 Planting Claw

Length of beak, mm :

Width of beak, mm :

Total length of planting finger, mm :

Gap between the mat & planting finger from horizontal position of planting finger, mm

Maximum

Minimum :

:

5.13 Floating system

Type :

Number :

Material :

Method of fixing :

Location :

Parameters	Length (mm)	Width (mm)	Mass (kg)	Ground contact area (cm^2)
Center float				
Side floats				
Extreme ends floats				

Float adjustment for planting depth :

Provision for automatic depth control :

5.13.1 Operator's seat

Type :

Method of suspension :

Method of dampening :

Adjustment :

5.14 Seedling carrier

Type :

Material :

Location :

Number :

Size , mm

Length :

Width :

Method of fixing :

5.15 Operator's foot rest

Number :

Material :

Size, mm

Length :

Front width :

Back width :

5.16 Foot pedal for mounting on machine

Material :

Location :

5.16 Over all dimensions, mm

Length :

Width :

Height :

5.16.1 Mass, kg :

5.16.2 Ground clearance, mm :

5.17 Safety devices for the guidance of operator-

i) Buzzer – for loading seedling mats

ii) Starting current circuit switch is engaged on pressing brake padel only.

iii) Automatic raising of the seedling platform during reversing the machine.

iv) Slip clutch to stop the planting claw rotation on hard surface.

5.18 Operator controls and lever

1. LHS of operator

- Main shift lever.
- Sub shift lever
- Line marker
- Side marker

2. RHS of operator

- Brake pedal
- Hill spacing adjusting lever
- Planting engaging lever.
- Line marker
- Side marker

3. Front of operator

- Steering control wheel
- Soil hardness sensor
- Each row switch – 4 nos.

- RPM display switch
- Engine fuel cut-off lever

4. Below operator's seat

- Transport seedling platform lock lever.
- Seat adjustment lever.
- Differential lock pedal.

5. Backside of operator

- Plant taking quality lever
- Soil depth control lever
- Cross feed lever

6. Instrument panel details

- Starting switch having four positions as stop, operation, preheating and start.
- Combination switch – for head lights and indicators.
- Fuel level gauge
- Water temperature gauge – colour code type.
- Charge lamp.
- Engine oil pressure indicator lamp.
- Seedling detection monitor (Having 4 conditions of seedling platform).
- Planting clutch monitor, which indicates each row disengaging, PTO engaging or disengaging, seedling quantity indicator, seedling empty buzzer.

5.19 Nursery holding tray

Material : Plastic

Dimensions, mm

Length :

Width :

Depth :

- Bottom surface of tray is provided with the hole of 3.8 mm dia at the distance of 19 mm.

5.20 Nursery placement scraper

Material : Plastic

Dimensions, mm

Length : 615

Width :

Thickness :

6. FUEL AND LUBRICANTS

6.1 Fuel : The unleaded Gasoline having specific gravity of 0.745 at 15^0C

6.2 Lubricants & coolant

Particulars	As recommended by manufacturer

Engine sump	
Transmission	
Hydraulic system	
Rear axle case	
Coolant	

7. RUNNING IN