**TECHNICAL SPECIFICATIONS FOR SELF PROPELLED WALK BEHIND/RIDE ON TYPE PADDY TRANSPLANTER**

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| **1.1** | **General:** |  |  |
| Name and address of manufacturer  | **:** |  |
| Name and address of applicant | **:** |  |
| Name of the machine | **:** |  |
| Type | **:** |  |
| Make | **:** |  |
| Model | **:** |  |
| Size of transplanter, mm | **:** |  |
| Serial No. /Chassis No.  | **:** |  |
| Month and year of manufacture | **:** |  |
| Country of origin | **:** |  |
| **1.2** | **Details of prime mover:** |  |  |
| Type | **:** |  |
| Make | **:** |  |
| Model | **:** |  |
| Serial no.  | **:** |  |
| Country of origin | **:** |  |
| Rated power in rating test of engine , kW  | **:** |  |
| Rated engine speed, rpm  | **:** |  |
| Maximum speed at no load, rpm  | **:** |  |
| Low idle speed, rpm  | **:** |  |
| Speed at maximum torque | **:** |  |
| Recommended no load engine speed for field operation, rpm  | **:** |  |
| Whether the prime mover has already been tested at authorized testing center (Yes/No) | **:** |  |
| If yes, then specify the valid test report No. and upload copy of the test report along with the Application Form | **:** |  |
| **1.2.1** | **Cylinder:**  |
| Number  | **:** |  |
| 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 | **:** |  |
| No. of compression rings | **:** |  |
| No. of oil rings | **:** |  |
| **1.2.2** | **Fuel supply system:**  |  |  |
| Type  | **:** |  |
| Type of fuel filter | **:** |  |
| Provision of water separator | **:** |  |
| Type of ignition device | **:** |  |
| **1.2.2.1** | **Fuel tank:** |  |  |
| Capacity, l | **:** |  |
| Location of fuel tank | **:** |  |
| Material of fuel tank | **:** |  |
| **1.2.2.2** | **Carburetor:** |  |  |
| Type  | **:** |  |
| Make | **:** |  |
| Product identification no. | **:** |  |
| **1.2.2.3** | **Governor:** |  |  |
| Make (apa) | **:** |  |
| Type  | **:** |  |
| Governed range of engine speed, rpm | **:** |  |
| Rated engine speed, rpm | **:** |  |
| **1.2.2.4** |  **Fuel injection pump (If applicable)** |  |  |
| Type  | **:** |  |
| Make  | **:** |  |
| Model/Group combination No.  | **:** |  |
| Sr. No. | **:** |  |
| Method of drive | **:** |  |
| **1.2.2.5** | **Fuel Injector (If applicable)** |  |  |
| Type | **:** |  |
| Make | **:** |  |
| Model/Group combination No.  | **:** |  |
| Sr. No. | **:** |  |
| Injection pressure, MPa  | **:** |  |
| Injection timing  | **:** |  |
| **1.2.3** | **Air intake system:** |  |  |
| **1.2.3.1** | **Pre-cleaner:** |  |  |
| Type | **:** |  |
| Make | **:** |  |
| Model/Group combination No.  | **:** |  |

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| **1.2.3.2** | **Air cleaner:** |  |  |
| Type of air cleaner  | **:** |  |
| Recommended grade of oil  | **:** |  |
| Recommended service schedule, h  | **:** |  |
| Location | **:** |  |
| **1.2.3.3** | **Exhaust:** |  |  |
| Type of silencer  | **:** |  |
| Provision against entry of rain water | **:** |  |
| Location | **:** |  |
| **1.2.3.4** | **Lubrication system:** |  |  |
| Type  | **:** |  |
| Engine sump capacity, l  | **:** |  |
| Maximum permissible oil temperature, °C  | **:** |  |
| Provision of oil level checking  | **:** |  |
| Recommended grade of lubricating oil,  | **:** |  |
| Oil change period, h | **:** |  |
| Minimum permissible lube oil pressure, kg/cm2 | **:** |  |
| **1.2.3.5** | **Cooling system:** |  |  |
| Type  | **:** |  |
| **Details of blower:** |  |  |
| Dia., mm | **:** |  |
| Number of fins | **:** |  |
| **Size of fins, mm:** |  |  |
| -Height  | **:** |  |
| -Width (top/bottom) | **:** |  |
| -Thickness | **:** |  |
| **Radiator (if applicable):** |  |  |
| Make | **:** |  |
| Type of radiator cap  | **:** |  |
| Radiator cap pressure, kgf/cm2 |  |  |
| Means of temperature control | **:** |  |
| Type of thermostat | **:** |  |
| Bare radiator capacity, l | **:** |  |
| Total coolant capacity, l | **:** |  |
| Means of grill cleaning, if any | **:** |  |
| Recommended grade of coolant | **:** |  |
| Coolant water ratio | **:** |  |
| **1.2.4** | **Electrical system:** |  |  |
| **1.2.4.1** | **Starting system:** |  |  |
| Make  | **:** |  |
| Type  | **:** |  |
| Aid for cold starting  | **:** |  |
| Any other device for easy starting | **:** |  |

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| **1.2.4.2** | **Spark plug:** |  |  |
| Make  | **:** |  |
| Model  | **:** |  |
| Type  | **:** |  |
| Gap of spark plug electrodes, mm | **:** |  |
| **1.2.4.3** | **Starter motor:** |  |  |
| Make  | **:** |  |
| Type | **:** |  |
| Model/ Group combination No.  | **:** |  |
| Capacity/Power, kW | **:** |  |
| Location | **:** |  |
| **1.2.4.4** | **Alternator:** |  |  |
| Make  | **:** |  |
| Model/Group combination No. | **:** |  |
| Output rating  | **:** |  |
| Location | **:** |  |
| Method of drive | **:** |  |
| **1.2.4.5** | **Voltage regulator** | **:** |  |
| **1.2.4.6** | **Battery:** |  |  |
| Make | **:** |  |
| Model/Type No. | **:** |  |
| Type | **:** |  |
| Capacity | **:** |  |
| No. & location | **:** |  |
| **1.2.4.7** | **Lighting system:** |  |  |

**Details of lights:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Description | No. & capacity of bulb | Height above ground to the centre of beam (mm) | Size of beam, (mm) | Distance from centre of the beam to outside edge of combine(mm) |
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| **1.2.4.8** | **Horn** | **:** |  |
| **1.2..5** | **Engine mounting frame:** |  |  |
| Type  | **:** |  |
| Shape | **:** |  |
| Size, mm | **:** |  |
| Thickness of sheet, mm | **:** |  |
| Method of fixing  | **:** |  |
| **1.3** | **Transmission system:**  |  |  |
| Make  | **:** |  |
| Model | **:** |  |
| Type | **:** |  |
| Description | **:** |  |
| Location | **:** |  |
| No. of speeds (Froward & Reverse) | **:** |  |
| Method of drive | **:** |  |
| Method of gear shifting | **:** |  |
| Oil capacity, l | **:** |  |
| Recommended grade of oil | **:** |  |
| Oil change period, h | **:** |  |
| **Nominal speed:** |  |  |

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| --- | --- | --- | --- |
| Movement | Gear No. | No. of engine revolutions for one revolution of driving wheel | Nominal speed at rated engine speed of ------- rpm when fitted with -------------- size of tyre of ------ mm radius index. (kmph) |
| Variator setting | Variator setting |
| Minimum | Maximum | Minimum | Maximum |
| **Forward** | 1 |  |  |  |  |
| 2 |  |  |  |  |
| 3 |  |  |  |  |
| **Reverse** | 1 |  |  |  |  |
| 2 |  |  |  |  |

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| **1.3.1** | **Main clutch:**  |  |  |
| Make  | **:** |  |
| Type  | **:** |  |
| Location | **:** |  |
| Mode of operation | **:** |  |
| Location | **:** |  |
| **1.3.2** | **Rear wheel clutch/Steering clutch:** |  |  |
| Function | **:** |  |
| Make  | **:** |  |
| Type  | **:** |  |
| Location | **:** |  |
| No. & size of pressure plate | **:** |  |
| No. & size of friction plate | **:** |  |
| Mode of operation  | **:** |  |

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| **1.3.3** | **Planting clutch:** |  |  |
| Function | **:** |  |
| Make  | **:** |  |
| Type  | **:** |  |
| Mode of operation | **:** |  |
| Location of lever | **:** |  |
| **1.3.4** | **Final drive:** |  |  |
| Make  | **:** |  |
| Type  | **:** |  |
| **First reduction details:** |  |  |
| No. of teeth on 1st pinion shaft  | **:** |  |
| No. of teeth on 1st crown shaft | **:** |  |
| Speed reduction ratio  | **:** |  |
| **Second reduction details:** |  |  |
| No. of teeth on 2nd pinion shaft | **:** |  |
| No. of teeth on 2nd crown shaft | **:** |  |
| Speed reduction ratio | **:** |  |
| Lubrication  | **:** |  |
| No. and type of bearing  | **:** |  |
| **1.4** | **Wheel equipment (drive wheel):** |  |  |
| Type (2WD/4WD) | **:** |  |
| **1.4.1** | **Front wheel (if applicable):** |  |  |
| Type  | **:** |  |
| Number | **:** |  |
| Dia. of wheel, mm | **:** |  |
| No. of lugs | **:** |  |
| Size of lugs (H × W × T), mm | **:** |  |
| Track width, mm | **:** |  |
| Wheel mounting | **:** |  |
| **1.4.2** | **Rear wheel:** |  |  |
| Type  | **:** |  |
| Number | **:** |  |
| Dia. of wheel, mm | **:** |  |
| No. of lugs | **:** |  |
| Size of lugs (H × W × T), mm | **:** |  |
| Track width, mm | **:** |  |
| Wheel mounting | **:** |  |
| Wheel base | **:** |  |
| Details of differential lock  | **:** |  |
| Details of torque multiplier | **:** |  |
| **1.5** | **Brakes:** |  |  |
| **1.5.1** | **Service brakes:** |  |  |
| Type | **:** |  |
| Location | **:** |  |
| Method of operation | **:** |  |
| **1.5.2** | **Parking brake:** |  |  |
| Type | **:** |  |
| Location | **:** |  |
| Method of operation | **:** |  |
| **1.6** | **Hydraulic system:**  |  |  |
| **Hydraulic pump:** |  |  |
| Type  | **:** |  |
| Make and model  | **:** |  |
| Number | **:** |  |
| Drive details | **:** |  |
| No. of teeth on drive gear | **:** |  |
| No. of teeth on driven gear | **:** |  |
| Speed reduction ratio | **:** |  |
| Location | **:** |  |
| Capacity, l | **:** |  |
| Recommended grade of oil | **:** |  |
| Oil change period, h | **:** |  |
| No. of hydraulic cylinder  | **:** |  |
| Internal dia. of cylinder tube, mm | **:** |  |
| Dia. of cylinders rod, mm | **:** |  |
| Stroke of piston, mm | **:** |  |
| Relief valve setting, MPa (Kg/cm2)  | **:** |  |
| Details of distributor | **:** |  |
| Details of hydraulic lock | **:** |  |
| **1.7** | **Steering:**  |  |  |
| Make | **:** |  |
| Type  | **:** |  |
| Material | **:** |  |
| Size, mmPeripheral lengthDia. | **:****:** |  |
| Height of centre of handle grip from ground level, mm | **:** |  |
| Method of fixing  | **:** |  |
| Handle grip size (L × Dia.), mm | **:** |  |
| Method of adjustment of height | **:** |  |
| Range of height adjustment, mm | **:** |  |
| Outer dia. of steering control wheel, mm **(if applicable)** | **:** |  |
| Details of hydraulic system | **:** |  |
| Method of operation | **:** |  |

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| **1.8**  | **Planting mechanism:**  |  |  |
| Type  | **:** |  |
| No. of rows | **:** |  |
| Spacing of rows, mm | **:** |  |
| Method of changing row to row spacing  | **:** |  |
| Range of hill to hill spacing, mm | **:** |  |
| Method of changing hill spacing  | **:** |  |
| Number of seedlings per hill  | **:** |  |
| Arrangement for adjusting the number of seedling per hill | **:** |  |
| Provision for planting depth adjustment | **:** |  |
| Provision for independent operation of pair of planting claw & seedling feed | **:** |  |
| Provision for automatic leveling of seedling platform | **:** |  |
| Recommended grade of lubricant  | **:** |  |
| Grease/oil changing period, h  | **:** |  |
| **1.8.1** | **Planting Finger:**  |  |  |
| Type | **:** |  |
| Number | **:** |  |
| No. of speeds available for fingers | **:** |  |
| Size, mm | **:** |  |
| Width of jaw/beak, mm | **:** |  |
| Length of beak, mm | **:** |  |
| Total length of planting finger, mm | **:** |  |
| **1.9** | **Seedling Feeding system:** |  |  |
| **1.9.1** | **Seedling platform assembly:** |  |  |
| Type  | **:** |  |
| Material | **:** |  |
| Size (L × W), mm | **:** |  |
| Number of compartment  | **:** |  |
| Size each component (L × W), mm | **:** |  |
| Inclination of tray, degrees | **:** |  |
| Seedling platform drive | **:** |  |
| Provision of left and right movement of tray | **:** |  |
| **Platform Extension:** |  |  |
| No. of extensions | **:** |  |
| Type | **:** |  |
| Material | **:** |  |
| Size, mm | **:** |  |
| **1.9.2** | **Longitudinal feeding system:** |  |  |
| Type | **:** |  |
| Material  | **:** |  |
| **Details of star wheels:**  |  |  |
| No. of star wheel | **:** |  |
| Size of star wheel, mm |  |  |
| Dia. | **:** |  |
| No. of teeth  | **:** |  |
| **Details of belts (if applicable):** |  |  |
| No. of belts | **:** |  |
| Seedling mat contact area, cm2 | **:** |  |
| Method of drive  | **:** |  |
| **1.9.3** | **Seedling support rod/stay-bars/retainer:** |  |  |
| Type  | **:** |  |
| Number  | **:** |  |
| Size (L × Dia.), mm | **:** |  |
| Method of fixing | **:** |  |
| **1.9.4** | **Cross feed system:**  |  |  |
| Type | **:** |  |
| Size of shaft, mm | **:** |  |
| Speed of seedling platform, m/s | **:** |  |
| Method of changing speed | **:** |  |
| Stroke length of cross feed platform, mm | **:** |  |
| No. of strokes per min. | **:** |  |
| Recommended grade of lubricant | **:** |  |
| Grease changing period, h  | **:** |  |
| **1.10** | **Floating system:** |  |  |
| Type  | **:** |  |
| Number | **:** |  |
| Material  | **:** |  |
| Location | **:** |  |
| Method of fixing | **:** |  |
| Float adjustment for planting depth | **:** |  |
| Provision for automatic depth control | **:** |  |
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| **Parameters**  | **Center float** | **Side float** |
| Length, mm |  |  |
| Maximum width, mm |  |  |
| Minimum width, mm |  |  |
| Mass, kg |  |  |
| Ground contact area, m2 |  |  |
| Angle of curvature, deg. |  |  |

**Details of float:** |

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| **1.11** | **Spare seedling carrier:** |  |  |
| Type | **:** |  |
| Material | **:** |  |
| Location | **:** |  |
| Number | **:** |  |
| Size (L x W), mm | **:** |  |

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| **1.12** | **Operator’s seat (if applicable):** |  |  |
| Type | **:** |  |
| Method of suspension | **:** |  |
| Method of dampening | **:** |  |
| **Adjustment, mm:** |  |  |
| Horizontal | **:** |  |
| Vertical | **:** |  |
| **1.13** | **Details of safety provisions** | **:** |  |
| **1.14** | **Details of controls and instrument panel** | **:** |  |
| **1.15** | **Overall dimensions, mm:**  |  | **Transportation** | **Field** |
| Length | **:** |  |
| Width | **:** |  |
| Height | **:** |  |
| **1.16** | **Ground clearance, mm** | **:** |  |
| **1.17** | **Mass, kg** | **:** |  |
| **1.18** | **Colour of machine** | **:** |  |
| **1.19** | **Marking/ Labeling Plate:**  |  |  |
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**Place:**  Signature------------------------------------------

**Date:** Name of the applicant---------------------------

 Designation---------------------------------------

 Address-------------------------------------------

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