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भारत सरकार

Government of India

कृषि एवं किसान कल्याण मंत्रालय,

Ministry of Agriculture and Farmers Welfare

(कृषि, सहकारिता एवं किसान कल्याण विभाग)

(Department of Agriculture, Cooperation and Farmers Welfare)

दक्षिणी क्षेत्र कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान

Southern Region Farm Machinery Training and Testing Institute

ट्रैक्टर नगर, गार्लदिन्ने – 515 731, जिला: अनंतपुर (आं. प्र.)

Tractor Nagar, Garladinne- 515 731, District: Anantapur (A.P.)

[ISO 9001:2008 COMPLIANT INSTITUTION]

SPECIFICATIONS OF TRANSPLANTER

1. GENERAL

1.1 Name and address of manufacturer :

1.2 Name & address of applicant :

1.3 Country of origin :

1.4 If imported C.I.F. value :

1.5 Selling price in Country of origin : Rs.

1.6 Selling price in India : Rs

1.7 Selected by :

1.8 Method of selection :

1.9 List of indigenous components :

(In case of indigenous products)

1.10 Place of running in :

1.11 Schedule & duration of running-in :

(h)

Engine :

Transmission :

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2.0 TECHNICAL SPECIFICATIONS :

- 2.1 Make :
- 2.2 Model :
- 2.3 Type :
- 2.4 Size :
- 2.5 Serial number :
- 2.6 Serial number of 1st prototype :
- 2.7 Year of manufacture :

2.8 Engine:

- 2.8.1 Make :
- 2.8.2 Model :
- 2.8.3 Type :
- 2.8.4 Serial number :
- 2.8.5 Engine speed(manufacturer's recommended setting) :
- Maximum speed at no load (rpm) :
(High idle speed)
 - Low idle speed (rpm) :
 - Speed at maximum torque (rpm) :
 - Rated engine speed (rpm) :
 - Rated engine speed for field :
(if any)

2.8.6 Cylinder & cylinder head :

- Number :
- Disposition :
- Bore/stroke (mm) :
- Capacity as specified by the Applicant (cu cm) :
- Compression ratio :
- Type of cylinder head :
- Type of cylinder liners :

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- Type of combustion chamber :
- Arrangement of valves :
- **Valve clearance (cold/hot) :**
 - Inlet valve :
 - Exhaust valve :

2.8.7 Fuel system

- Type of fuel system :
- Type, make & model of feed pump :
- Type, make & model of fuel filters :

2.8.7.1 Injection pump :

- Make, model & Type :
- Serial No. :
- Method of drive :
- **Diesel fuel injection pump setting:**

Adjustment operations	Fuel injection pump shaft speed (rpm)	Discharge				Control rod travel in (mm)	Remarks
		Fuel temp. (°C)	Qty. (cc)/100 strokes OR g/100 strokes	Metering tolerable difference			
				cc	g		
At rated speed							
At idling speed							
At fuel cutoff							

2.8.7.2 Fuel injectors:

- Make, model & type :
- Manufacturers production
- Pressure setting mPa (kgf/cm²) :
- Injection timing :
- Firing order :

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2.8.7.3 Governor :

Make & Model :

Type : Constant speed/Variable speed

Class of governing :

Governed range of engine speed
(rpm) :

Rated engine speed (rpm) :

2.8.7.4 Gasoline Engines (If fitted) :

Type, make & model of magnets/
Coil and distributor :

Type, make & model of
Carburetor :

Size of fuel jets :

Ignition timing :

Make, model & type of spark
Plugs :

Spark plug gap setting (mm) :

2.8.8 Air Intake System :**2.8.8.1 Make, model & type of pre-**

Cleaner :

2.8.8.2 Make, model & type of Air

Cleaner :

Oil capacity (Oil bath type) :

Range of suction pressure
(mm of Hg) :

Recommended grade of oil :

Recommended service schedule :

2.8.9 Exhaust system :

Type of silencer :

Range of exhaust gas
Pressure (mm of Hg) :

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Provision against entry of rain

Water :

2.8.10 Lubricating System :

Type :

Make & number of filters :

Type of lubricating oil pump :

Capacity of lubricating oil pump

At rated engine speed (l/min) :

Relief valve setting :

Oil capacity (l) :

Recommended grade of lubricating oil :

Oil changing period :

Minimum and maximum

Permissible lubricating oil pressure :

Maximum permissible lubricating

Oil temperature (°C) :

Details of cooling arrangement if any

Provided :

2.8.11 Cooling system :

Type :

Details of pump & fan :

Coolant pump/blower size and

Capacity :

Coolant capacity (l) :

Means of temperature control :

Type & pressure of radiator cap :

Maximum permissible coolant

Temperature (°C) :

2.8.12 Starting system :

Type :

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Aid for cold starting :
 Any other device provided for easy
 Starting :

Electrical System :

Make, type & capacity of battery :
 Make, model & type of starter :
 Serial number & output rating of
 Generator :
 Make, model & type of generator :
 Light switch details :
 Details about horn :

2.8.13 Instrument panel details :

- (i)
- (ii)
- (iii)
- (iv)
- (v)
- (vi)
- (vii)
- (viii)

2.9 Transmission system :

2.9.1 Clutch :

Make, type & size of clutch :
 Number of friction plate(s) :
 Make, type & method of operation of
 Wheel clutch :
 Make, type & method of operation of
 Planting clutch :

2.9.2 Gear Box :

Make, model & type of gear box :
 Number of speeds :

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- Forward :
- Reverse :
- Recommended grade of lubricant :
- Oil capacity :
- Oil changing period (h) :

Normal speed :

Movement	Gear No.	No. of engine revolutions for one revolution of drive wheel	Nominal speed at rated engine speed, at rolling radius ofmm (kmph)
Forward	1.		
	2.		
	3.		
	4.		
Reverse	1.		
	2.		

2.9.3 Details of axle & Final Drive :

- Type, make & reduction ratio :
- Mode of power transmission from
- Reduction unit to ground level :

2.9.4 Ground wheel (driving wheel) :

- Number & type :
- Pipe dia & wheel mounting :
- Number & type :
- Size of lugs :
- Dia of wheel (mm) :

2.10 Steering

- Make & type :
- Method of operation :

2.11 Float :

- Number & type :
- Size :

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- Method of suspension to chassis :

2.12 Markers :

- Number & type :
- Method of mounting :

2.13 Planting mechanism :

- Type & number of rows :
- Spacing of rows :
- Method of changing row to row
Distance :
- Range of hill to hill distance(cm):
- Method of changing hill to hill
Distance :
- Range & number of seedlings per
Hill :
- Method of changing number of
Seedlings per hill :

2.13.1 Planting Arm :

- Number & type :
- Number of speeds & range for
Planting arm :

2.14 Seedling Platform Assembly :

- Type & size of seedling tray :
- Type method of flow of seedlings :

2.15 Overall Dimensions :

- Length (mm) :
- Width (mm) :
- Height (mm) :
- Mass (operational) (kg) :
- Ground clearance (mm) :

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2.16 List of other accessories supplied

With transporter :

- 1.
- 2.
- 3.
- 4.

2.17 Procedure for seedling preparation :

Place & Date :

Signature : _____

Name : _____

Designation: _____

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ADDITIONAL INFORMATION

1. **Engine Performance** :
 - i) Maximum Power kw (Ps) :
 - ii) Rated Power kw(Ps) :
 - iii) Specific fuel consumption corresponding to maximum power kg/kwh (g/hph) :
 - iv) Maximum equivalent crankshaft torque Nm(kgs-m) :
 - v) Back-up torque (%) :
 - vi) Maximum temperatures (°C) :
 - Engine oil :
 - Coolant (water)/liner wall :
 - vii) Lubricating oil consumption(g/kwh):
 - viii) Coolant consumption (% of total Coolant capacity) :
 - ix) Smoke level (Bosch No.) :
2. **Mechanical Vibration at steering/hands** :
3. **Air cleaner-oil pullover** :
 - Maximum oil pull over (%) :
- 4.0 **Noise level** :
 - Maximum ambient noise level emitted by transplanter at bystander`s position dB(A) :
 - Maximum noise level at the Operator`s ear level dB(A) :
5. **Field Operation** :
 - Range of recommended puddle Depth (cm) :
 - Range of recommended water Over puddle (cm) :
 - Range of recommended height Of seedlings :
 - Range of recommended life of Seedlings :
 - Recommended forward speed for Operation (kmph) :
 - Percentage variation in spacing Of rows :

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- Percentage variation in hill Spacing :
- Percentage of missing hill :
- Percentage of variation in number Of plant at each hill :
- Whether sealing of transplanter's Sub-assembly are waterproof :

6. Initial Settings discard limits for :

Critical components	Initial Setting	Discard Limit
i) Cylinder bore dia(mm) ii) Piston dia (mm) iii) Ring-end gap(mm) -Top compression ring -2 nd compression ring - 3 rd Compression ring Oil ring		
iv) Clearance of big end bearings mm) - Diametrical - Axial		
v) Overall thickness of clutch plate (mm)		
vi) Overall thickness of brake disc/lining (mm) (if fitted)		

7.0 Any other specific recommendations :

Signature _____

Name of the signatory _____

Designation _____

Place:

Date :

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