



भारत सरकार / Government of India

उत्तरीक्षेत्रकृषिमशीनरीप्रशिक्षणएवंपरीक्षणसंस्थान / Northern Region Farm Machinery Training and Testing Institute

ट्रैक्टरनगर, सिरसारोड, हिंसार) हरियाणा (/Tractor Nagar, Sirsa Road, Hisar (Haryana)- 125 001

Website: <http://nrfmtti.gov.in> E-mail: fmnti-nr@nic.in Tel./Fax: 01662276984 GSTIN:06AAAAGN0273PIZ3

[ISO - 9001 : 2015 CERTIFIED]

TECHNICAL SPECIFICATIONS FOR SELF PROPELLED REAPER/REAPER CUM BINDER

1	General		
	Name of machine	:	
	Type	:	
	Make	:	
	Model	:	
	Brand name	:	
	Serial No.	:	
	Name of manufacturer	:	
	Name of applicant	:	
	Country of origin	:	
	Recommended crop	:	
2	Details of prime-mover		
	Type	:	
	Make	:	
	Model	:	
	Country of origin	:	
	Serial No.	:	
	Engine speed (recommended setting), rpm:		
	High idle speed	:	
	Low idle speed	:	
	Rated, rpm	:	
	Speed at max. torque, (rpm)	:	
	No load engine speed recommended for field operation	:	
	Whether the prime mover has already been test by authorized testing center (Yes/No)	:	
	If yes, then specify valid test report No. & upload the copy of test report along with Application Form	:	
3	Cylinder & cylinder head		
	Number	:	
	Disposition	:	
	Bore/ stroke, mm	:	
	Capacity (cc)	:	
	Compression ratio	:	
	Type of cylinder liner	:	
	Arrangement of valves	:	
	Valve clearance (cold/hot), mm:		
	-Inlet	:	
	- Exhaust	:	

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4.	Fuel system:		
	Type of fuel system	:	
	Material of fuel tank	:	
	Size of fuel tank	:	
	Capacity of fuel tank, l	:	
	Location of fuel tank	:	
	Provision for draining of sediments/ Water	:	
	Fuel cut-off knob	:	
	Fuel filters		
	Make	:	
	Model/Group combination No.	:	
	Number	:	
	Type of element	:	
	Capacity, l	:	
5	Fuel injection pump:		
	Type	:	
	Make	:	
	Model/Group combination No.	:	
	Method of drive	:	
6	Fuel Injector:		
	Number & Type	:	
	Make	:	
	Model/ Group combination No.	:	
	Injection pressure, kg/cm ²	:	
	Fuel injection timing	:	
7	Governor:		
	Make	:	
	Type	:	
	Governed range of engine speed, rpm	:	
	Rated engine speed, rpm	:	
8	Air-intake system:		
	Type	:	
	Pre cleaner:		
	Make	:	
	Type	:	
	Location	:	
	Air cleaner:		
	Make	:	
	Type	:	
	Oil capacity, l	:	
	Location	:	
	Recommended service schedule	:	
9	Exhaust:		
	Type	:	
	Position of silencer/exhaust outlet	:	
	Spark arresting device, if any	:	
10	Lubrication system:		
	Type	:	
	Type of pump	:	

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	Oil filter:		
	Type	:	
	Make	:	
	Model/part No.	:	
	Capacity of oil, l	:	
	Method of drive	:	
	Oil change period, h	:	
11	Cooling system:		
	Type	:	
	No. of blades	:	
12	Starting system:		
	Type	:	
	Any aid for cold starting	:	
	Any other device provided for easy starting	:	
13	Electrical system:		
13.1	Starter motor:		
	Make	:	
	Type	:	
	Model/ Group combination No.	:	
	Capacity/power, kW	:	
	S. No.	:	
	Location	:	
13.2	Voltage regulator:		
	Make	:	
	Model	:	
	Capacity	:	
13.3	Battery:		
	Make	:	
	Model/Type No.	:	
	Type	:	
	Capacity	:	
	Number & Location	:	
13.4	Horn:		
	Make	:	
	Type	:	
	Number	:	
	Location	:	
13.5	Generator:		
	Type	:	
	Make	:	
	Model	:	
14	Transmission system:		
	Make	:	
	Model	:	
	Serial No.	:	
14.1	Clutch:		
	Type	:	
	Make	:	
	No. of friction disc	:	

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	Size, mm	:	
	Location	:	
	Method of operation	:	
	Thickness of clutch Plate, (mm)	:	
	Rivet height, (mm)	:	
14.2	Gear box:		
	Type	:	
	No. of speeds	:	
	Method of gear shifting	:	
	Oil capacity, l	:	
	Oil change period, h	:	
14.3	Final drive;		
	Type	:	
	Teeth on drive sprocket	:	
	Teeth on driven sprocket	:	
	Reduction ration	:	
	Method of lubricant	:	
15	Brake:		
15.1	Service brake:		
	Type	:	
	Material of shoe	:	
	Location	:	
	Area of lining, cm ²	:	
	Thickness of shoe	:	
	Method of operation	:	
15.2	Parking brake:	:	
16	Steering system:		
	Make	:	
	Type	:	
	Method of operation	:	
	Outer diameter of steering control wheel, mm	:	
17	Hydraulic system:		
17.1	Hydraulic pump:		
	Type	:	
	Make	:	
	Model/Part No.	:	
	Number	:	
	Serial No.	:	
	Method of drive	:	
	Location	:	
17.2	Hydraulic tank:		
	Type	:	
	Location	:	
	Size, mm	:	
	Capacity of hydraulic tank (l)	:	
	No. & type of oil filters	:	
	Oil grade recommended	:	

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	Hydraulic oil change period	:	
17.3	Hydraulic cylinder:		
	Number & type	:	
	Location	:	
18	Details of light:		
	Number	:	
	Location	:	
	Size, mm	:	
	Capacity of bulb	:	
19	Reaper:		
19.1	Cutter bar assembly;		
	Working width , mm	:	
	Effective cutter bar width, mm	:	
	Knife safety	:	
	Details of knife drive	:	
	Knife drive safety arrangement	:	
	Knife stroke, mm	:	
	Strokes per minute	:	
	Knife speed corresponding to 2500 rpm of engine, m/sec.	:	
	Type of crop dividers	:	
	Type of crop conveyance	:	
	Arrangement for lifting lodged crop	:	
19.2	Knife blades:		
	No. & type of knife blades	:	
	Dimensions, mm	:	
	Marking;		
	Manufacturer's name or recognized trade mark	:	
	Batch or code number	:	
	Type and thickness	:	
Workmanship and finish	:		
19.3	Knife guard:		
	No. & type of knife guard	:	
	Dimensions, mm	:	
	Anti corrosive coating	:	
	Marking:		
	Manufacturer's name or recognized trade mark	:	
	Batch or code number	:	
	Type	:	
Workman ship and finish	:		
19.4	Knife back:		
	Type	:	
	Dimensions, mm	:	
	Workmanship and finish	:	
	Marking;		
Manufacturer's name or recognized trade mark	:		

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	Batch or code number	:	
19.5	Knife clip;		
	Material	:	
	Size, mm	:	
	No. of clips	:	
	Spacing, mm	:	
	Provision for adjusting the clearance between clip and cutter bar	:	
	Method of fixing	:	
20	Binder Unit (if applicable):		
	Method of crop conveyance	:	
	No. of forks layer	:	
	No. of fingers on each fork		
	Top	:	
	Middle	:	
	Lower	:	
	Method of Crop binding	:	
Method of changing crop bundle sizes	:		
Safety device in crop harvesting & conveyance mechanism	:		
21	Twine;		
	Type	:	
	Diameter of bundle, mm	:	
	Height of bundle, mm	:	
	Weight of bundle (kg)	:	
22	Drive to reaper & binder unit:		
	Type of drive to cutter bar assembly	:	
	Type of drive to forks & knotting mechanism	:	
	Dia. of PTO pulley, mm	:	
	Dia. of drive pulley, mm	:	
	No. of tensioner pulley	:	
	Dia. of tensioner pulley, mm	:	
	No. of teeth on drive gear	:	
	No. of teeth on driven gear	:	
	Reduction ratio	:	
	Method of lubricant	:	
23	Lubricating points:		
	Grease Nipples/cup	:	
	Oiling points	:	
24	Operator's Seat:		
	Type	:	
	Make	:	
	Type of suspension	:	
	Horizontal adjustment, mm	:	
	Dampening	:	
	Adjustment for mass of operator	:	

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25	Wheel equipments:		
25.1	Drive wheels;		
	Make	:	
	Type	:	
	Size	:	
	Number	:	
	Location	:	
	Recommended inflation pressure, kPa	:	
	Track width, mm	:	
25.2	Steered wheel;		
	Make	:	
	Type	:	
	Size, mm	:	
	Number	:	
	Location	:	
	Recommended inflation pressure, kpa	:	
	Track width, mm	:	
25.3	Wheel base, mm	:	
26	Canopy:	:	
	Type	:	
	Size mm	:	
	Height frame operator's platform	:	
27	Overall dimensions, mm;		
	Length	:	
	Width	:	
28	Mass:		
	Mass of Reaper binder with full fuel tank, sump & gear box but without operator, kg	:	
29	Color of machine:		
	Chassis	:	
	Transmission, binder unit, engine & wheel rim	:	
30	Labeling plate:		

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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 (micron)	:	
3.	Air cleaner-oil pullover:		
	-Maximum oil pull over (%)	:	
4.	Noise level:		
	-Maximum ambient noise level, dB(A)	:	
	-Maximum noise level at the Operator's ear level, dB(A)	:	

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Sl. No.	Critical components	Initial Setting	Discard Limit
1	Cylinder bore dia. (mm)		
2	Piston to cylinder clearance at skirt (mm)		
3	Piston dia. (mm)		
4	Ring-end gap (mm):		
	-Top compression ring		
	-2 nd compression ring		
	-3 rd compression ring		
	- Oil ring		
5	Ring groove clearance (mm):		
	-Top compression ring		
	-2 nd compression ring		
	-3 rd compression ring		
	- Oil ring		
6	Clearance of big end bearings (mm):		
	- Diametrical		
	- Axial		
7	Crankshaft end float (mm)		
8	Backlash of timing gears (mm)		
9	Backlash of primary gear box gears (mm)		
10	Backlash of secondary gear box gears (mm)		
11	Overall thickness of clutch plate (mm)		
12	Spring stiffness, N/mm (kgf/mm):		
	-Inlet		
	-Exhaust		
13	Clearance between valve guide and valve Stem (mm):		
	-Inlet valve		
	-Exhaust valve		

Place:

Date:

Signature: -----

Name of the applicant: -----

Designation: -----

Address: -----

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