**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/cm2 | **:** |  |
| 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 | **:** |  |
|  | **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 | **:** |  |
|  | 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, cm2 | **:** |  |
| 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 | **:** |  |
|  | 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 | **:** |  |
|  | 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 | **:** |  |
| **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 | **:** |  |
| Height | **:** |  |
| **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 | **:** |  |
| Engine cover | **:** |  |
| **30** | **Labeling plate:** |  |  |
|  |  |  |  |

**ADDITIONAL INFORMATION**

|  |  |  |  |
| --- | --- | --- | --- |
| **1.** | **Engine Performance** |  |  |
|  | Maximum Power, kW (Ps) | **:** |  |
|  | Rated Power, kW (Ps) | **:** |  |
|  | Specific fuel consumption  corresponding to maximum power,  kg/kWh (g/hph) | **:** |  |
|  | Maximum equivalent crankshaft torque, Nm (kgs-m) | **:** |  |
|  | Back-up torque (%) | **:** |  |
|  | **Maximum temperatures (ºC):** |  |  |
| Engine oil | **:** |  |
| Coolant (water)/liner wall | **:** |  |
|  | Lubricating oil consumption (g/kWh) | **:** |  |
|  | Coolant consumption (% of total  Coolant capacity) | **:** |  |
|  | 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  0 |  |  |
| 3 | Piston dia. (mm) |  |  |
| 4 | **Ring-end gap (mm):** |  |  |
| -Top compression ring |  |  |
| -2nd compression ring |  |  |
| -3rd compression ring |  |  |
| - Oil ring |  |  |
| 5 | **Ring groove clearance (mm):** |  |  |
| -Top compression ring |  |  |
| -2nd compression ring |  |  |
| -3rd 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: Signature: ------------------------------------------

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

Designation: --------------------------------------

Address: -------------------------------------------