SPECIFICATION OF TRACTOR OPERATED COMBINE HARVESTER

|  |
| --- |
| 1. SPECIFICATION1.1 General |
|  | Name & address of manufacturer | :  |  |
|  | Make | : |  |
|  | Model | : |  |
|  | Brand name (if any) | : |  |
|  | Type | : |  |
|  | Year of manufacture | : |  |
|  | Latest ICT/Batch Test report Number | : |  |
|  | Maximum PTO power, kW | : |  |
|  | Country of origin | : |  |
| 1.2 | Prime mover  |  |  |
| 1.2.1 | Tractor  |  |  |
|  | Make | : |  |
|  | Model | : |  |
|  | Type | : |  |
| 1.2.2 | Engine |  |  |
|  | Make | : |  |
|  | Model | : |  |
|  | Type | : |  |
|  | Engine speed (rpm) (Manufacturer’s recommended setting ) |
|  | Maximum speed at no load, rpm | : |  |
|  | Rated speed, rpm | : |  |
|  | No load engine speed recommended for field operation, rpm | : |  |
|  | Low idle speed, rpm | : |  |
|  |  |  |  |
| 1.2.1 | Cylinder and cylinder head |  |  |
|  | Number | : |  |
|  | Disposition | : |  |
|  | Bore/Stroke, mm | : |  |
|  | Capacity, cm3  | : |  |
|  | Compression ratio  | : |  |
|  | Arrangement of valves | : |  |
|  | Type of cylinder liners | : |  |
|  | Type of head | : |  |
|  | Valve clearance in cold, mm |  |  |
|  |  Inlet valve | : |  |
|  | Exhaust valve | : |  |
| 1.2.2 | Fuel system |  |  |
|  | Type of fuel system | : |  |
| 1.2.2.1 | Fuel tank |  |  |
|  | Material | : |  |
|  | Size, mm | : |  |
|  | capacity, l | : |  |
| 1.2.2.2 | Fuel feed pump |  |  |
|  | Make  | : |  |
|  | Type | : |  |
|  | Model/Group combination number | : |  |
| 1.2.2.3 | Fuel filters |  |  |
|  | Make | : |  |
|  | Model/Group combination No.  | : |  |
|  | Number (s) | : |  |
|  | Type of element | : |  |
|  | Capacity of final stage filter, l | : |  |
|  | Water separator (Provided/not provided) | : |  |
| 1.2.2.4 | Fuel injection pump |  |  |
|  | Make | : |  |
|  | Model/Group combination No. | : |  |
|  | Type | : |  |
|  | Designation | : |  |
|  | Method of drive | : |  |
| 1.2.2.5 | Fuel injectors |  |  |
|  | Make  | : |  |
|  | Type | : |  |
|  | Model/Group combination No. | : |  |
|  | Injection opening pressure, (Mpa)  | : |  |
|  | Injection timing  | : |  |
|  | Firing order  | : |  |
| 1.2.3 | Governor |  |  |
|  | Make  | : |  |
|  | Type | : |  |
|  | Designation | : |  |
|  | Governed range of engine speed, rpm | : |  |
| 1.2.4 | Air Intake System |  |  |
|  | Type | : |  |
| 1.2.4.1 | Pre-cleaner | : |  |
|  | Make  | : |  |
|  | Type | : |  |
|  | Number | : |  |
|  | Location | : |  |
| 1.2.4.2 | Air cleaner |  |  |
|  | Make | : |  |
|  | Type | : |  |
|  | Number | : |  |
|  | Location | : |  |
|  | Type of element | : |  |
|  | Service indicator |  |  |
|  | Dust unloading valve | : |  |
|  | Recommended service Schedule | : |  |
|  | Suction pressure at max. power, kPa  | : |  |
| 1.2.5 | Exhaust |  |  |
|  | Make  | : |  |
|  | Type | : |  |
|  | Pressure at max. power, kPa  | : |  |
|  | Provision of spark arresting device/any other device | : |  |
| 1.2.5.1 | EGR | : |  |
| 1.2.5.2 | Turbocharger (Provided/Not provided) |  |  |
|  | Make | : |  |
|  | Model | : |  |
| 1.2.6 | Lubrication system |  |  |
|  | Type | : |  |
|  | Type of oil pump | : |  |
|  | Method of drive | : |  |
|  | Oil sump capacity, l | : |  |
| 1.2.6.1 | Filters |  |  |
|  | Make |  |  |
|  | Type of oil filters  | : |  |
|  | Location | : |  |
|  | Relief valve pressure setting,(kPa)  | : |  |
|  | Minimum permissible pressure, (kPa)  | : |  |
| 1.2.7 | Cooling system |  |  |
|  | Type | : |  |
| 1.2.7.1 | Water pump |  |  |
|  | Make | : |  |
|  | Type | : |  |
|  | Size of impeller, mmDiameterNo. of vanes | :: |  |
|  | Method of drive | : |  |
| 1.2.7.2 | Details of fan |  |  |
|  | Material & type | : |  |
|  | No. of blade | : |  |
|  | Size, mm | : |  |
| 1.2.7.3 | Radiator |  |  |
|  | Make | : |  |
|  | Type and Radiator cap pressure, kgf/cm2  | : |  |
|  | Means of temperature control | : |  |
|  | Bare radiator capacity, l | : |  |
|  | Total coolant capacity, l | : |  |
|  | Means of grill cleaning, if any | : |  |
| 1.2.8 | Starting system |  |  |
|  | Type  | : |  |
|  | Any aid for cold starting | : |  |
| 1.2.9 | Electrical system |  |  |
| 1.2.9.1 | Starter motor |  |  |
|  | Make  | : |  |
|  | Type | : |  |
|  | Model/ Group combination No.  | : |  |
|  | power,kW | : |  |
| 1.2.9.2 | Alternator |  |  |
|  | Make  | : |  |
|  | Model | : |  |
|  | Output rating  | : |  |
| 1.2.9.3 | Voltage regulator | : |  |
| 1.2.9.4 | Battery |  |  |
|  | Make | : |  |
|  | Model/Type No. | : |  |
|  | Type | : |  |
|  | 20 h rating | : |  |

|  |  |  |  |
| --- | --- | --- | --- |
| 1.2.9.5 | Horn |  |  |
|  | Make | : |  |
|  | Type | : |  |
|  | Number | : |  |
|  | Detail of approval of horn | : |  |
| 1.3 | Combine |  |  |
| 1.3.1 | Wheel equipments |  |  |
| 1.3.1.1 | Drive wheel |  |  |
|  | Make | : |  |
|  | Type | : |  |
|  | Location | : |  |
|  | Number, size & Ply rating | : |  |
|  | Track width, mm | : |  |
|  | Recommended tyre pressure, kPa  | : |  |
|  | Loading capacity at recommended tyre pressure (kg) | : |  |
| 1.3.1.2 | Steered wheel |  |  |
|  | Make | : |  |
|  | Type | : |  |
|  | Location | : |  |
|  | Number/size & Ply rating | : |  |
|  | Track width (mm) | : |  |
|  | Recommended tyre pressure, kPa  | : |  |
|  | Loading capacity at recommended tyre pressure (kg) | : |  |
| 1.3.1.3 | Wheel base, mm | : |  |

|  |  |  |  |
| --- | --- | --- | --- |
| 1.3.2 | Transmission system |  |  |
| 1.3.2.1 | Clutch  |  | For Main Clutch | For P.T.O. clutch |
|  | Make | : |  |  |
|  | Type | : |  |  |
|  | Size, mm | : |  |  |
|  | No. of friction discs | : |  |  |
| 1.3.2.2 | Gear box |  |  |
|  | Make | : |  |
|  | Type | : |  |
|  | Location | : |  |
|  | No. of speeds | : |  |
|  | Oil capacity, l | : |  |
| 1.3.2.3 | Final drive |  |  |
|  | Type | : |  |
|  | Reduction ratio  | : |  |
|  | Oil capacity,l |  |  |
| 1.3.2.4 | Differential unit  |
|  | Type | : |  |
|  | Reduction ratio  | : |  |
|  | Oil capacity | : |  |
| 1.3.3 | Brakes |  |  |
| 1.3.3.1 | Service brake |  |  |
|  | Make | : |  |
|  | Type | : |  |
|  | Area of disc/Shoe at each wheel side (cm2) | : |  |
| 1.3.3.2 | Parking brake |  |  |
|  | Type | : |  |
|  | Location & method of operation | : |  |
| 1.3.4 | Steering system |  |  |
|  | Make | : |  |
|  | Type | : |  |
|  | Outer diameter of steering control wheel, mm | : |  |
| 1.3.5 | Hydraulic system |  |  |
| 1.3.5.1 | Hydraulic pump for harvester’s hydraulic cylinders |
|  | Type | : |  |
|  | Make  | : |  |
|  | Model | : |  |
|  | Number(s) |  |  |
| 1.3.5.2 | No. of hydraulic cylinders | : |  |
| 1.3.6 | Reel assembly |  |  |
|  | Type | : |  |
|  |  Type and Number of tine bars | : |  |
|  | Size of tine bars, mmDia.Length | :: |  |
|  | Dia. and working width of reel, mm | : |  |
|  | Range of speed corresponding to recommended no load speed of engine, rpm | : |  |
|  | Number of tines on each bar and their spacing, mm | : |  |
|  | Arrangement for raising and lowering the reel assembly | : |  |
|  | Safety device in reel drive | : |  |
| 1.3.7 | Cutter bar assembly |  |  |
|  | Working width, cm | : |  |
|  | Effective cutter bar width, cm | : |  |
| 1.3.7.1 | Knife blades |  |  |
|  | No. & type of knife blades | : |  |
|  | Knife drive safety arrangement | : |  |
|  | Knife stroke, mm | : |  |
|  | Knife frequency per minute | : |  |
|  |  Knife speed corresponding to recommended no load speed of engine, rpm | : |  |
|  | Type of crop dividers | : |  |
|  | Arrangement for lifting lodged crop | : |  |
| 1.3.7.2 | Knife guard |  |  |
|  | No & type of knife guard  | : |  |
|  | Type  | : |  |
| 1.3.7.3 | Knife back |  |  |
|  | Type  | : |  |
|  | Dimensions, mm | : |  |
| 1.3.8 | Cutting platform auger |  |  |
|  | Type of crop conveyor | : |  |
|  | Size of auger , mm |  |  |
|  | Speed of auger corresponding to recommended no load speed of engine, rpm | : |  |
|  | Arrangement for adjusting the clearance of crop auger | : |  |
|  | Auger drive safety arrangement | : |  |
| 1.3.9 | Details of scoop/retrachible fingers |  |  |
|  | Number  | : |  |
|  | Height of scoop/range of throw,mm | : |  |
|  | Axial spacing between the scoop/fingers, mm | : |  |
|  | Peripheral distance between the scoop/fingers, mm | :  |  |
|  | Arrangement for adjustment of fingers length | : |  |
| 1.3.10 | Undershot conveyor |  |  |
|  | Type of feeder conveyor | : |  |
|  | No. size and spacing of comb bar | : |  |
|  | Conveyor drive safety arrangement | : |  |
|  | Speed corresponding to recommended no load engine speed of engine, rpm | : |  |
| 1.3.11 | Threshing drum |  | For Wheat | For Paddy |
|  | Type | : |  |  |
|  |  Diameter and Width, mm | : |  |  |
|  | Range of speed corresponding to recommended no load speed of engine, rpm | : |  |  |
|  | No. of bars | : |  |  |
|  | No. of pegs and their spacing on each bar | : |  |  |
|  | No. of hub plate | : |  |  |
|  | Length of rasp bar/peg bar, mm | : |  |  |
|  | Height of pegs, mm | : |  |  |
|  | Method of speed variation | : |  |  |
|  | Provision of stone trap | : |  |
|  | Safety device | : |  |
| 1.3.12 | Concave |  | For Wheat | For Paddy |
|  | Overall width of concave, mm | : |  |  |
|  | Effective width, mm | : |  |  |
|  | Type of concave | : |  |  |
|  | No. of bars | : |  |  |
|  | Peripheral length, mm | : |  |  |
|  | Peripheral effective length, mm | : |  |  |
|  | Effective area, sq. cm. | : |  |  |
|  | Details of extension | : |  |  |
|  | Range of clearance, mm |  |  |  |
|  | Front | : |  |  |
|  | Rear | : |  |  |
|  | Method of adjusting the clearance between drum and concave | : |  |
| 1.3.13 | Rear beater |  |  |
|  | Type | : |  |
|  | Size of beater, length and width, mm | : |  |
|  | Speed corresponding to recommended no load speed of engine, rpm | : |  |
| 1.3.14 | Baffle plate (Deflector) |  |  |
|  | Type | : |  |
|  | No. of flap | : |  |
|  | Size of Baffle plate, mm | : |  |
|  | Method of flap adjustment | : |  |
| 1.3.15 | Separating mechanism |  |  |
| 1.3.15.1 | Straw walkers |  |  |
|  | Number(s) | : |  |
|  | Type | : |  |
|  | Size of each straw walker, mm |  |  |
|  | Length | : |  |
|  | Width | : |  |
|  | Oscillations per minutes corresponding to recommended no load speed of engine, rpm  | : |  |
|  | Provision for varying oscillations of straw walkar | : |  |

|  |  |  |  |
| --- | --- | --- | --- |
| 1.3.15.2 | Stepped grain pan |  |  |
|  | Type | : |  |
|  | Size, mm | : |  |
|  | Inclination and method of adjustment if any (degree) | : |  |
| 1.3.15.3 | Cleaning sieves |  |  |
| 1.3.15.3.1 | Top sieve |  |  |
|  | No. of sieve | : |  |
|  | Type  | : |  |
|  | Overall size of sieve( L X W), mm |  | Front | Rear |
|  | Oscillation per minute corresponding to recommended no load speed of engine | : |  |
|  | Lift/throw, mm | : |  |
|  | Arrangement for varying the opening of the sieve | : |  |

|  |  |  |  |
| --- | --- | --- | --- |
| 1.3.15.3.2 | Bottom sieve  |  |  |
|  | No. of sieve | : |  |
|  | Type | : |  |
|  | Overall size of sieve, (L XW) mm |  |  |
|  | Oscillation per minute corresponding to recommended no load speed of engine | : |  |
|  | Arrangement for varying the opening of the sieve | : |  |
| 1.3.15.4 | Blower |  |  |
|  | Dia. mm  | : |  |
|  | Effective width, mm | : |  |
|  | No. & type of blade | : |  |
|  | Type of drive | : |  |
|  | Method of varying the blower speed | : |  |
|  | Range of Speed corresponding to recommended no load speed of engine, rpm | : |  |
|  | Method of controlling the air blast | : |  |
| 1.3.15.5 | Grain pan |  |  |
|  | Type | : |  |
|  | Size, mm | : |  |
|  | Inclination (degree) and method of adjustment if any  | : |  |
| 1.3.15.6 | Tailing pan  |  |  |
|  | Type | : |  |
|  | Size, mm | : |  |
|  | Inclination, (degree) and method of adjustment if any  | : |  |
| 1.3.16 | Grain conveying mechanism |  |  |
| 1.3.16.1 | Bottom grain conveyor |  |  |
|  | Type | : |  |
|  | Size of conveyor( length Dia. and Pitch), mm |  |  |
|  | Speed corresponding to recommended no load speed of engine, rpm  | : |  |
| 1.3.16.2 | Grain elevator |  |  |
|  | Type | : |  |
|  | Length of elevator, mm | : |  |
|  | Speed corresponding to recommended no load speed of engine, rpm | : |  |
|  | Elevator drive safety arrangement | : |  |
|  | Method of tensioning the chain | : |  |

|  |  |  |  |
| --- | --- | --- | --- |
| 1.3.16.3 | Upper grain auger |  |  |
|  | Type | : |  |
|  | Size of auger (Length, Dia. and Pitch), mm | : |  |
|  | Speed corresponding to recommended no load speed of engine , rpm | : |  |
|  | Drive safety arrangement | : |  |
| 1.3.17 | Tailing conveying mechanism |  |  |
| 1.3.17.1 | Bottom tailing auger |  |  |
|  | Type | : |  |
|  | Size of auger( length, Dia. and pitch), mm | : |  |
|  | Speed corresponding to recommended no load speed of engine, rpm | : |  |
|  | Drive safety | : |  |
| 1.3.17.2 | Tailing elevator |  |  |
|  | Type | : |  |
|  | Length of elevator, mm | : |  |
|  | Speed corresponding to recommended no load speed of engine, rpm | : |  |
|  | Method of tensioning the chain | : |  |
|  | Elevator drive safety arrangement | : |  |
| 1.3.17.3 | Upper tailing auger |  |  |
|  | Type | : |  |
|  | Size( length, Dia. and Pitch), mm | : |  |
|  | Speed corresponding to recommended no load speed of engine, rpm | : |  |
|  | Drive safety | : |  |
| 1.3.18 | Grain tank |  |  |
|  | Location | : |  |
|  | Capacity  |  |  |
|  | Volume basis, m3  (With wheat) | : |  |
|  | Provision of grain tank cover | : |  |
|  | Provision for indication of grain tank filling | : |  |
| 1.3.18.1 | Grain conveying auger (Bottom of grain tank) |
|  | Type | : |  |
|  | Size, mm | : |  |
|  | Speed corresponding to recommended field operation rpm of engine, rpm | : |  |
|  | Safety device | : |  |
| 1.3.18.2 | Grain unloading auger |  |  |
|  | Type | : |  |
|  | Size (length Dia. and pitch), mm | : |  |
|  | Horizontal reach, cm | : |  |
|  | Discharge height above ground level, cm | : |  |
|  | Clearance height, cm | : |  |
|  | Speed corresponding to recommended no load speed of engine, rpm | : |  |
|  | Safety device | :  |  |
| 1.4 | Safety devices provided on the machine |
| i)ii)iii)iv)v) |  |
| 1.5 | Details of Operating controls, gauges and instruments |
| 1.6 | Seat |  |  |
|  | Make  | : |  |
|  | Type | : |  |
|  | Type of suspension | : |  |
|  | Type of dampening | : |  |
|  | Horizontal adjustment, mm | : |  |
| 1.7 | Overall dimensions of combine harvester, cm |  | Workingposition | Transportposition |
|  | Length | : |  |  |
|  | Width | : |  |  |
|  | Height | : |  |  |
| 1.8 | Mass |  |  |
|  | Mass of combine harvester with coolant, fuel, lubricants & grain tank (wheat) full and 75 kg mass on the operator's seat, kg |  |  |
|  | Total | : |  |
|  | Front | : |  |
|  | Rear | : |  |
| 1.9 | Ground clearance, mm | : |  |
| 1.10 | Total number of lubricating points:  |
|  | Grease Nipples/grease holes  | : |  |
|  | Greasing cups | : |  |
|  | Oiling | : |  |
| 1.11 | Header transport trailer |  |  |
|  | Type | : |  |
|  | Size, mmLengthWidthHeight | ::: |  |
|  | No. & type of wheel | : |  |
|  | Make | : |  |
|  | Size & Ply rating | : |  |
|  | Track width (mm) | : |  |
|  | Height of trailer hitch in transport position, mm | : |  |
| 1.12 | Details of labelling plate | : |  |

|  |
| --- |
|  |

2.STRAW CHOPPER CUM SPREADER (SMS) (IF FITTED)

|  |  |  |  |
| --- | --- | --- | --- |
| 2.1 | General |  |  |
|  | Make of SMS | : |  |
|  | Model of SMS | : |  |
|  | Type of SMS | : |  |
|  | Name and complete Address of themanufacturer of SMS includingPIN/Mob./email etc. | : |  |
|  | Year of manufacturer of SMS | : |  |
| 2.2 | Rotor |  |  |
|  | Rotor Diameter, mm | : |  |
|  | No of lugs on Rotor in a row | : |  |
|  | Rotor dia with blade, mm | : |  |
|  | No of rows in a periphery | : |  |
|  | Length of pivotal flail, mm | : |  |
|  | Width of flail, mm | : |  |
|  | Thickness of flail | : |  |
|  | No. of flail in one set | : |  |
|  | Spacing between flail of one set, mm | : |  |
|  | Distance between adjacent flail unit,mm | : |  |
|  | No of Rows/bar of serrated blade | : |  |
|  | No of serrated blade in a row | : |  |
|  | Spacing between serrated blades, mm | : |  |
|  | Clearance between pivotal blade andconcave | : |  |
|  | Overlapping of pivotal blade on serrated blade, mm | : |  |
|  | Rotor rpm | : |  |
| 2.3 | Transmission | : |  |
|  | Diameter of Drive Pulley | : |  |
|  | Diameter of Driven pulley | : |  |
| 2.4 | Spreader |  |  |
|  | Total no of flap, mm | : |  |
|  | Length of flap, mm | : |  |
|  | Distance between flaps, in (left to right) | : |  |
|  | SMS sheet thickness , mm | : |  |
|  | Spreader angle with horizontal, Degree | : |  |
|  | Spreader angle with line of travel ,degree | : |  |
|  | Spreader sheet thickness, mm | : |  |
| 2.5 | Overall dimensions (mm) |  |  |
|  | Length | : |  |
|  | Width | : |  |
|  | Height | : |  |
| 2.6 | Overall Mass (kg) | : |  |
| 2.7 | Colour | : |  |
| 2.8 | Hardness & chemical composition |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| 2.9 | SAFETY REQUIREMENT FOR SMS(evaluative) | : |  |
|  | Guards over all moving parts | : |  |
|  | RPM indicator of rotor | : |  |
|  | Overlapping of flail and fixed serratedblade (The clearance should beadjustable) | : |  |

|  |  |  |  |
| --- | --- | --- | --- |
| 2.10 | Labeling plate on SMS (details) |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| 3 | Lubricants: |  |  |
| Sl. No. | Particulars | As recommended by the applicant | Oil change period |
| 1. | Engine oil  |  |  |
| 2. | Hydraulic oil  |  |  |
| 3. | Transmission and final drive housing oil |  |  |
| 4. | Hydrostatic steering oil |  |  |
| 5. | Grease |  |  |

SELECTED PERFORMANCE AND OTHER CHARACTERISTICS AS PER IS 15806-2018

TO BE DECLARED BY APPLICANT

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| S. No | Characteristics | Category (Evaluative/Non evaluative) | Requirement  | Tolerance  | Declarati-on by applicant | Remarks |
| 1. | Prime mover performance |
|  | a) | Max. Power (absolute) Average max. power observed during 2 hrs. max. power test in natural ambient condition, kW | Evaluative | To be declared by manufacturer | Declared value to be achieved with a tolerance of ±5% |  |  |
| b) | Max. power observed during test after adjusting the no load engine speed as per recommendation of the manufacturer for field work, kW | Evaluative | To be declared by manufacturer | -do- |  |  |
| c) | Power at rated engine speed, kW (under natural ambient condition) | Non-Evaluative | To be declared by manufacturer | -do- |  |  |
| d) | Specific fuel consumption corresponding to average maximum power under 2h maximum power test, g/kWh. | Evaluative | -do- | +5%(Max.)  |  |  |
| e) | Max. smoke density at 80% load between the speed at max. power & 55% of speed at max. or 1000 rpm whichever is higher | Evaluative | As pre CMV rules. | Nil | - |  |
| f) | Max. crank shaft torque, (Nm) observed during the test after no load engine speed is adjusted as per manufacture’s recommendation for field work | Evaluative | To be declared by manufacturer | ±8%  |  |  |
| g) | Back up torque, % | Evaluative | 7 percent, (Min.) | Nil | - |  |
| h) | Max. Operating temperature, 0Ci) Engine oil  | Evaluative |  To be declared by manufacturer | Nil |  | The observed value under the high ambient condition should not exceed maximum safe value specified by the oil company which will be provided by the applicant |
|  | ii) coolant | Evaluative | To be declared by manufacturer | Nil |  | The declared value should not exceed the boiling temperature of coolant under the pressurized or otherwise and the observed value under high ambient condition should not exceed the declaration  |
| i) | Lubrication oil consumption, g/kWh  | Evaluative | Not exceeding 1 % of specific fuel consumption at maximum power under high ambient condition | Nil |  | The value should be based on the test conducted under high ambient condition |
| 2.Brake performance at 24km/h or Maximum Speed whichever is less |
|  | a) | Max. Stopping distance at a force equal to or less than 600 N on brake pedal (m) – (cold brake and hot brake) | Evaluative | As pre CMV rules. | Nil |  |  |
|  | b) | Max. Force exerted on brake pedal to achieve a deceleration of 2.5 m/sec2 | Evaluative | ≤ 600 N | Nil |  |  |
|  | c) | Effectiveness of parking brake at a force of 600 N at foot pedal or 400 N at Hand lever | Evaluative | As pre CMV rules. | Nil  |  | Based on the test conducted, Yes/No as the case may be should be indicated |
| 3.Mechanical vibration |
|  | i) | Operator’s platform | Non evaluative | 120 μm max. | Nil |  |  |
|   | ii) | Steering wheel | Non evaluative | 150 μm max. | Nil |  |
|  | iii) | Seat with driver seated | Non evaluative | 120 μm max. | Nil |  |
| 4.Air cleaner oil pull over |
|  | i) | Max. oil pull over in percentage when tested in accordance with IS: 8122. (Part-2)-2000 | Evaluative | 0.20% max. | Nil |  |  |
| 5.Noise measurement |
|  | i) | Max. ambient noise emitted by combine at by standards position dB (A) | Evaluative | as per CMVR | Nil |  | As per road transport condition |
|  | ii) | Max. noise at operator’s ear level dB (A) | Evaluative | as per CMVR | Nil |  | In actual field condition |
| 6. Header Lifting Test |
|  |  | Satisfactory completion of header lifting test | Evaluative |  | Nil |  | The observed Hydraulic oil temp should not exceed maximum safe value specified by the oil company which will be provided by the applicant.  |
| 7.Discard limit |
|  | a) | Cylinder bore diameter, mm | Evaluative | Should not exceed the values declared by the manufacture | Nil |  |  |
|  | b) | Piston diameter, mm | Evaluative | -do- | Nil  |  |  |
|  | c) | Piston to cylinder liner clearance at skirt  | Evaluative | -do- | Nil  |  |  |
|  | d) | Ring end gap, mm | Evaluative | -do- | Nil  |  |  |
|  | e) | Ring groove clearance, mm  | Evaluative | -do- | Nil  |  |  |
|  | f) | Diametrical clearance of big end bearing, mm | Evaluative | -do- | Nil  |  |  |
|  | g) | Axial clearance of big end bearing, mm  | Evaluative | -do- | Nil  |  |  |
|  | h) | Diametrical clearance of main bearings, mm | Evaluative | -do- | Nil  |  |  |
|  | i) | Axial clearance of main bearings, mm | Evaluative | -do- | Nil  |  |  |
|  | j) | Thickness of brake lining | Evaluative | -do- | Nil |  |  |
|  | k) | Thickness of clutch plate | Evaluative | -do- | Nil |  |  |
|  | l) | Spring stiffness(N/mm) | - | -do- | Nil |  |  |
|  | m) | Clearance between valve and valve guide(mm) | - | -do- | Nil |  |  |
| 8.Field performance |
|  | a) | Suitability for crops | Evaluative | Wheat & paddy (Wheel type) Paddy (Track type) | Nil |  |  |
|  | b) | Processing losses (%) | Evaluative | Wheat  Barley Rice SorghumMaize Oil seed, rape Soya-beans  | :::::: | Max 3%Max 4%Max 4%Max 3%Max 4%Max 4%Max 5% | Nil |  |  |
|  | c) | Threshing efficiency | Evaluative | - | : | ≥ 98 % for wheat and paddy | Nil |  |  |
|  | d) | Cleaning efficiency | Evaluative | - | : | ≥ 96 % for wheat and paddy | Nil |  |  |
|  | e) | Grain breakage in main grain tank | Evaluative | - | : | ≤ 2.5 %  | Nil |  |  |
|  | f) | Non collectable losses | Evaluative | - | : | ≤ 2.5 % for wheat, paddy and gram≤ 4.0 % for soyabean | Nil |  |  |
| 9. Field performance for Straw Management System (If fitted) |
|  | a) | Uniformity of straw spread ,CV (Percent) | Evaluative | - | : | 20, Max. | - |  |  |
|  | b) | Weighted mean size of chopped straw, cm | Evaluative | - | : | 20,Max. | - |  |  |
| 10. Safety requirements |
|  | a) | Guards against all moving parts/drives and hot part | Evaluative | Belt and chain drives, pulleys hydraulic pipes(Around operators workplace)  | -- |  | As per IS 12239 (Part 1)  |
|  | b) | Lighting arrangement  | Evaluative | essential as per CMVR | - |  | -- |
|  | c) | Grain tank cover | Evaluative | Essential | - |  |  |
|  | d) | Spark arrester in engine’s exhaust in case naturally aspirated engine | Evaluative | Essential | - |  |  |
|  | e)  | Stone trap before concave | Evaluative | Essential | - |  |  |
|  | f)  | Rear view mirror | Evaluative | Essential | - |  |  |
|  | g) | Fire extinguisher | Evaluative | Essential | - |  |  |
|  | h) | Slip clutch at following drives –i) Cutting platform augerii) Undershot conveyor driveiii) Grain & tailing elevator | EvaluativeNon evaluativeNon evaluative | EssentialOptionalOptional | - |  |  |
|  | i) | Anti slip surfaces at operator platform & ladder & proper gripping for the control levers. | Evaluative | Essential |  | -- | As per IS 12239 (Part 1)  |
|  | j) | Working clearance around the controls | Evaluative | Essential 70mm, min | - |  | As per IS 12239 (Part 1)  |
|  | k) | Labelling of control and gauges and operating controls | Evaluative | Essential | - |  | As per IS 6283(Part 1) |
| 11. Material of construction : |
|  | Guards, knife blades and knife back | Non evaluative | Conforming to IS 6024, IS 6025 and IS 10378 respectively | - | - | - |
| 12. | Material of blades for Straw Management System (SMS) | Non-Evaluative | The flail and fixed blades shall be manufactured from steel having the following chemical composition or such other composition as shall be agreed between the supplier and the purchaser:a)Carbon : 0.70 to 0.1 %b)Manganese : 0.6 to 0.97 %c)Chrome : 0.1 %d)Nickle : 0.1 % |  |  |
| 13. | Bushes for flail blades | Non-Evaluative | Mild steel |  |  |
| 14. | Hardness of flail blades for Straw Management System (SMS) | Evaluative | Bush section : 20 to 35 HRCEdge section(Hardened zone) : 48 to 48 HRCRemainder zone: 20 to 35 HRC |  |  |
| 15. | Hardness of serrated blades for Straw Management System (SMS) | Evaluative | Bush section : 20 to 35 HRCEdge section(Hardened zone) : 48 to 58 HRCRemainder zone: 20 to 35 HRC |  |  |
| 16. Safety Requirements for Straw Management System(if Fitted) |
|  | a) | Guards against all moving parts/drives and hot parts | Evaluative | Essential |  |  |
|  | b) | RPM indicator for rotor | Evaluative | Desirable |  |  |
|  | c) | Overlapping of flail and fixed serrated blades | Evaluative | Essential |  | The clearance of the flail and fixed serrated blades should be adjustable |

Place: Signature------------------------------------------

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

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

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

 ----------------------------------------

 ----------------------------------------

 ----------------------------------------