भारत सरकार /GOVERNMENT OF INDIA
उत्तरी क्षेत्र कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान
Northern Region Farm Machinery Training and Testing Institute
ट्रैक्टर नगर, सिरसा रोड, हिसार)हरियाणा—(125001 TRACTOR NAGAR, SIRSA ROAD, HISAR (HARYANA)- 125 001
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TECHNICAL SPECIFICATIONS FOR TRACTOR OPERATED COMBINE HARVESTER FOR BATCH/ADMINISTRATIVE/TECHNICAL EXTENSION

Sr. No.	Particulars		Previous sample as per test report No. ------	Present sample	Remarks
1	2	3	4	5	6
1.1	**General:**				
	Name & address of manufacturer	:			
	Name & address of applicant/importer	:			
	Make	:			
	Model	:			
	Brand name (if any)	:			
	Type	:			
	Year of manufacture	:			
	Serial No./Chassis No.	:			
	Country of origin	:			
	Type of crops recommended for harvesting	:			
1.2	**Prime mover:**				
1.2.1	**Tractor:**				
	Make	:			
	Model	:			
	Type	:			
	Chassis No.				
1.2.2	**Engine:**				
	Make	:			
	Model	:			
	Type	:			
	Serial No.	:			

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	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	:			
	Location	:			
	Country of origin	:			
	Whether the tractor has already been tested by authorized testing centre (Yes/No)	:			
	If yes, then specify valid test report No. and upload copy of the test report	:			
	Details of Emission Certificate if any	:			
1.2.1	**Cylinder and cylinder head:**				
	Number	:			
	Disposition	:			
	Bore/Stroke, mm	:			
	Capacity, cm^3	:			
	Compression ratio	:			
	Arrangement of valves	:			
	Type of cylinder liners	:			
	Type of head	:			
	Type of combustion chamber	:			
	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	:			
	Provision of sediment bowl	:			
1.2.2.3	**Fuel filters:**				
	Make	:			
	Model/Group combination No.	:			

1	2	3	4		5		6
	Number (s)	:					
	Type of element:						
	Primary	:					
	Secondary	:					
	Capacity of final stage filter, l	:					
	Provision of water separator	:					
	Make	:					
	Location	:					
1.2.2.4	**Fuel injection pump:**						
	Make	:					
	Model/Group combination No.	:					
	Type	:					
	Method of drive	:					
1.2.2.5	**Fuel injectors:**						
	Make	:					
	Type	:					
	Model/Group combination No.	:					
	Injection opening pressure, kgf/cm^2	:					
	Injection timing, degree	:					
	Firing order	:					
1.2.3	**Governor:**						
	Make	:					
	Type	:					
	Model/Group combination number/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	:					
	Size of filter element (mm):		**Primary (outer)**	**Secondary (inner)**	**Primary (outer)**	**Secondary (inner)**	
	Inner dia.	:					

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	Outer dia.	:					
	Length	:					
	Service indicator	:					
	Dust unloading valve	:					
	Recommended service Schedule, h	:					
	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	**Details of turbocharger:**						
	Make	:					
	Model	:					
	Number of fan/wheels	:					
	Number of blades:						
	-Turbine wheel	:					
	-Compressor fan	:					
	Method of drive	:					
	Means of lubrication	:					
1.2.5.2	**Charged air cooler (CAC) unit:**						
	Type	:					
	Make	:					
	Size(LXWXH), mm	:					
	No of Tubes	:					
1.2.5.3	**EGR:**						
	Make	:					
	Type	:					
	Part No.	:					
1.2.5.4	**Exhaust treatment system:**						
1.2.5.4.1	**Diesel Oxidation Catalyst (DOC):**						
	Make	:					
	DOC description	:					
	Part No.	:					
	Location	:					
1.2.5.4.2	**Selective catalyst Reduction (SCR):**						
	Make	:					
	Description	:					
	Location	:					
	Details of diesel exhaust fluid tank:						

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	Capacity, l	:			
	Location	:			
	Material of construction	:			
	Provision of draining	:			
	Recommended diesel exhaust fluid	:			
1.2.6	**Lubrication system:**				
	Type	:			
	Type of oil pump	:			
	Method of drive	:			
	Lube oil pump rpm corresponding to rated rpm of engine, rpm	:			
	Oil sump capacity, l	:			
	Oil change period, h	:			
	Recommended grade of oil	:			
1.2.6.1	**Filters:**				
	Make	:			
	Numbers	:			
	Type of oil filters	:			
	Relief valve pressure setting, kgf/cm^2,	:			
	Minimum permissible pressure, kgf/cm^2	:			
1.2.6.2	**Provision of oil cooler:**				
	Type	:			
	Make	:			
	Part No.	:			
	No. of plates	:			
1.2.7	**Cooling system:**				
	Type	:			
1.2.7.1	**Water pump:**				
	Make	:			
	Type	:			
	No. of vanes	:			
	Dia. of impeller	:			
	Method of drive	:			
1.2.7.2	**Details of fan:**				
	Material & type	:			
	No. of blade	:			
	Size, mm	:			
1.2.7.3	**Radiator:**				
	Make	:			

1	2	3	4	5	6
	Type of radiator cap	:			
	Radiator cap pressure, kgf/cm^2				
	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	:			
1.2.8	**Details of Air Compressor (if any)**	:			
1.2.9	**Starting system:**				
	Type	:			
	Any aid for cold starting	:			
	Any other device provided for easy starting	:			
1.2.10	**Electrical system:**				
1.2.10.1	**Starter motor:**				
	Make	:			
	Type	:			
	Model/ Group combination No.	:			
	Capacity/Power, kW	:			
	Location	:			
1.2.10.2	**Alternator:**				
	Make	:			
	Model/Group combination No.	:			
	Output rating	:			
	Location	:			
	Method of drive	:			
1.2.10.3	**Voltage regulator**	:			
1.2.10.4	**Battery:**				
	Make	:			
	Model/Type No.	:			
	Type	:			
	Capacity	:			
	No. & location	:			
1.2.10.5	**Details of lights:**				

1	2	3	4	5	6
1.2.10.5.1	**Previous sample:**				

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)
		As per requirements of CMVR	As observed		
Head lights		3000 (Max.)			
Front turn indicator light		2100 (Max.)			
Front parking light		2100 (Max.)			
Front field working lights		Not applicable			
Grain unloading light		Not applicable			
Side inspection light		Not applicable			
Engine inspection light		Not applicable			
Top rear light		Not applicable			
Rear turn indicator light		2100 (Max.)			
Rear parking cum position light		2100 (Max.)			
Rear brake light		2100 (Max.)			
Reverse gear indicator light		2100 (Max.)			
Number plate light		2100 (Max.)			
Straw walker inspection light		2100 (Max.)			

1.2.10.5.2	**Present sample:**				

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)
		As per requirements of CMVR	As observed		
Head lights		3000 (Max.)			
Front turn indicator light		2100 (Max.)			
Front parking light		2100 (Max.)			
Front field working lights		Not applicable			
Grain unloading light		Not applicable			
Side inspection light		Not applicable			
Engine inspection light		Not applicable			
Top rear light		Not applicable			
Rear turn indicator light		2100 (Max.)			
Rear parking cum position light		2100 (Max.)			
Rear brake light		2100 (Max.)			
Reverse gear indicator light		2100 (Max.)			
Number plate light		2100 (Max.)			

Straw walker inspection light		2100 (Max.)			
Reflectors:					
Front reflectors		2100 (Max.)			
Rear reflectors		2100 (Max.)			
Side reflectors		Not applicable			
SMVE		Not applicable			
Trailer light:					
Brake light		2100 (Max.)			
Turn indicator light		2100 (Max.)			
Parking cum position light		2100 (Max.)			
Reverse gear indicator light		2100 (Max.)			
Number plate light		2100 (Max.)			
Reflectors:					
Rear reflector		2100 (Max.)			
Side reflector		2100 (Max.)			
SMVE		Not applicable			

1	2	3	4	5	6
1.2.10.6	**Horn:**		**Previous sample asper test report No. ------**	**Present sample**	**Remarks**
	Make	**:**			
	Type	**:**			
	Numbers	**:**			
	Location	**:**			
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	**:**			

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	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:**		**Main clutch**	**PTO clutch**	**Main clutch**	**PTO clutch**	
	Make	:					
	Type	:					
	Size, mm	:					
	No. of friction discs	:					
	Location	:					
	Method of operation	:					
1.3.2.2	**Gear box:**						
	Make	:					
	Type	:					
	Location	:					
	No. of speeds (Forward & Reverse)	:					
	Method of drive	:					
	Method of gear shifting	:					
	Oil capacity, l	:					
	Recommended grade of oil	:					
	Oil change period, h	:					
1.3.2.3	**Final drive:**						
	Make	:					
	Type	:					
	Reduction ratio	:					
	Location	:					
	Oil capacity, l	:					
	Recommended grade of oil	:					
	Oil change period, h	:					
1.3.2.4	**Differential unit:**						
	Type	:					
	Reduction ratio	:					
	Oil capacity, l	:					
	Recommended grade of oil	:					
	Oil change period, h	:					
1.3.2.5	**Nominal speed:**						

1	2	3	4	5	6
1.3.2.5.1	**Previous sample:**				

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)
Forward	1		
	2		
	3		
	4		
Reverse	1		
	2		

1.3.2.5.1	**Present sample:**				

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)
Forward	1		
	2		
	3		
	4		
Reverse	1		
	2		

1.3.3	**Brakes:**		**Previous sample asper test report No. ------**	**Present sample**	**Remarks**
1.3.3.1	**Service brake:**				
	Make	**:**			
	Type	**:**			
	Area of disc/shoe at each wheel side (cm^2)	**:**			
	Location	**:**			
	Method of operation	**:**			
1.3.3.2	**Parking brake:**				
	Make	**:**			
	Type and location	**:**			
	Method of operation	**:**			
1.3.4	**Steering system:**				
	Make	**:**			
	Type	**:**			

1	2	3	4	5	6
	Model/Group combination number	:			
	Outer diameter of steering control wheel, mm	:			
	Method of operation	:			
1.3.5	**Hydraulic system:**				
1.3.5.1	**Hydraulic pump:**				
	Type	:			
	Make	:			
	Model/Part No.	:			
	Number(s)	:			
	Location	:			
1.3.5.2	**Hydraulic pump for steering:**				
	Type	:			
	Make	:			
	Model	:			
	Number(s)	:			
	Location	:			
	Method of drive	:			
1.3.5.3	**No. of hydraulic cylinders**	:			
1.3.6	**Reel assembly:**				
	Type	:			
	Type and Number of tine bars	:			
	Size of tine bars, mm:				
	Dia.	:			
	Length	:			
	Dia. and working width of reel, mm	:			
	Range of speed corresponding to recommended no load speed of engine for field work, rpm	:			
	Number of tines on each bar and their spacing, mm	:			
	Maximum distance ahead of cutter bar points, mm	:			
	Maximum distance behind of cutter bar points, mm	:			
	Maximum vertical distance above the cutter bar points from the centre of reel, mm	:			
	Arrangement for raising and lowering the reel assembly	:			

1	2	3	4	5	6
	Arrangement for forward and backward movement of reel	:			
	Arrangement for variation of angle of tine	:			
	Type of reel drive	:			
	Method of tensioning	:			
	Safety device in reel drive	:			
1.3.7	**Cutter bar assembly:**				
	Working width, cm	:			
	Effective cutter bar width, cm	:			
	No. & spacing of knife guards, mm	:			
1.3.7.1	**Knife blades**				
	No. & type of knife blades	:			
	Marking:				
	Marking of manufacturer's name or recognized trade mark	:			
	Marking of batch or code number	:			
	Type and thickness	:			
	Details of knife drive	:			
	Knife drive safety arrangement	:			
	Knife stroke, mm	:			
	Knife frequency per minute	:			
	Knife speed corresponding to recommended no load speed of engine for field work, rpm	:			
	No. & type of crop dividers	:			
	Arrangement for lifting lodged crop	:			
1.3.7.2	**Knife guard:**				
	No. & type of knife guard	:			
	Provision of anti corrosive coating	:			
	Marking:				
	Manufacturer's name or recognized trade mark	:			
	Batch or code number	:			
	Type	:			
1.3.7.3	**Knife back:**				
	Type	:			
	Marking:				
	Manufacturer's name or recognized trade mark	:			
	Batch or code number	:			

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1.3.8	**Cutting platform auger:**						
	Type of crop conveyor	:					
	Size of auger (Dia., Pitch & Width), mm	:					
	Speed of auger corresponding to recommended no load speed of engine for field work, rpm	:					
	Arrangement for adjusting the clearance of crop auger	:					
	Auger drive safety arrangement	:					
	Height of header assembly in the transport position, cm	:					
	Arrangement for locking the header assembly in raised position	:					
	Arrangement for side way tilting the cutter bar	:					
1.3.9	**Details of retractable fingers:**						
	Number(s)	:					
	Range of throw out, mm	:					
	Axial spacing between the fingers, mm	:					
	Peripheral distance between the 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	:					
	Arrangement for adjusting clearance between comb and platform and tensioning the chain	:					
	Speed corresponding to recommended no load engine speed of engine for field work, rpm	:					
	No. & type of bearings	:					
1.3.11	**Threshing drum:**		**For Wheat**	**For Paddy**	**For Wheat**	**For Paddy**	
	Type	:					
	Outer diameter and width, mm	:					
	Range of speed corresponding to recommended no load speed of engine for field work, rpm	:					
	No. of bars	:					

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	No. of pegs and their spacing on each bar	:					
	No. of hub plate	:					
	Length of rasp bar/peg bar, mm	:					
	Height of pegs, mm	:					
	No. of rasps/100 mm	:					
	No. of rasps on each bar	:					
	Arrangement of bars	:					
	No. & type of bearings	:					
	Method of speed variation	:					
	Provision of stone trap	:					
	Safety device	:					
1.3.12	**Concave:**		**For Wheat**	**For Paddy**	**For Wheat**	**For Paddy**	
	Overall width of concave, mm	:					
	Effective width, mm	:					
	Type of concave	:					
	No. of bars	:					
	No. of pegs per bar & spacing	:					
	Height/ Spacing of the pegs, mm	:					
	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 for field work, 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	:					

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	-Width	:					
	Area of each walker, sq. m	:					
	Lift/throw, mm	:					
	Oscillations per minutes corresponding to recommended no load speed of engine for field work, rpm	:					
	Provision for varying oscillations of straw walkar	:					
	Type of extension	:					
	No. & type of bearings	:					
1.3.15.2	**Stepped grain pan:**						
	Type	:					
	Size, mm	:					
	Effective area of pan, m^2	:					
	Details of extension	:					
	Location	:					
	Inclination (degree)	:					
1.3.15.3	**Cleaning sieves:**						
1.3.15.3.1	**Top sieve:**						
	No. of sieve	:					
	Type	:					
	Overall size of sieve (mm):		**Front**	**Rear**	**Front**	**Rear**	
	-Length	:					
	-Width	:					
	Effective cleaning area, mm^2	:					
	Area of extension, mm^2	:					
	Oscillation per minute corresponding to recommended no load speed of engine for field work	:					
	Lift/throw, mm	:					
	Arrangement for varying the opening of the sieve	:					
	Height of lips at max. opening, mm	:					
	Method of varying oscillation	:					
	Method of drive	:					

1	2	3	4	5	6
1.3.15.3.2	**Bottom sieve:**				
	No. of sieve	:			
	Type	:			
	Overall size of sieve, mm:				
	Length	:			
	Width	:			
	Effective cleaning area, mm^2	:			
	Oscillation per minute corresponding to recommended no load speed of engine for field work	:			
	Method of varying oscillation	:			
	Arrangement for varying the opening of the sieve	:			
1.3.15.4	**Blower:**				
	Dia. mm	:			
	Effective width, mm	:			
	No. & type of blade	:			
	Size of blade, mm:				
	Length	:			
	Width	:			
	Thickness	:			
	Type of drive	:			
	Method of varying the blower speed	:			
	Range of speed corresponding to recommended no load speed of engine for field work, rpm	:			
	Method of controlling the air blast	:			
	No. & type of bearings	:			
1.3.15.5	**Grain pan:**				
	Type	:			
	Size, mm	:			
	Area, sq. m	:			
	Location	:			
	Inclination (degree) and method of adjustment (if any)	:			
1.3.15.6	**Tailing pan:**				
	Type	:			
	Number	:			
	Size, mm	:			
	Location	:			
	Inclination, (degree) and method of adjustment (if any)	:			

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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 for field work, rpm	**:**			
	Type of drive	**:**			
	No. & type of bearings	**:**			
1.3.16.2	**Grain elevator:**				
	Type	**:**			
	Length of elevator, mm	**:**			
	Outside section, mm	**:**			
	No. & type of pad	**:**			
	Size of pads, mm	**:**			
	Spacing of pads, mm	**:**			
	Speed corresponding to recommended no load speed of engine for field work, rpm	**:**			
	Type of chain	**:**			
	Size of chain (Length, Roller Dia. & Pitch), mm	**:**			
	No. of roller	**:**			
	Elevator drive safety arrangement	**:**			
	Method of tensioning the chain	**:**			
	Type of drive	**:**			
	No. & type of bearings	**:**			
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 for field work , rpm	**:**			
	Drive safety arrangement	**:**			
	Type of drive	**:**			
	No. & type of bearings	**:**			
1.3.17	**Tailing conveying mechanism:**				
1.3.17.1	**Bottom tailing auger:**				
	Type	**:**			

1	2	3	4	5	6
	Size of auger (length, Dia. and pitch), mm	:			
	Speed corresponding to recommended no load speed of engine for field work, rpm	:			
	Type of drive	:			
	No. & type of bearings	:			
	Drive safety	:			
1.3.17.2	**Tailing elevator:**				
	Type	:			
	Length of elevator box, mm	:			
	Outer section , mm	:			
	No. & type of pads	:			
	Size of pads, mm	:			
	Spacing of pads, mm	:			
	Type of chain	:			
	Size of chain (Length, Roller dia. & Pitch), mm	:			
	No. of rollers	:			
	Method of tensioning the chain	:			
	Elevator drive safety arrangement	:			
	Type of drive	:			
	Speed corresponding to recommended no load speed of engine for field work, rpm				
1.3.17.3	**Upper tailing auger:**				
	Type	:			
	Size (length, dia. and pitch), mm	:			
	Speed corresponding to recommended no load speed of engine for field work, rpm	:			
	Type of drive	:			
	No. & type of bearings	:			
	Drive safety	:			
1.3.18	**Grain tank:**				
	Location	:			
	Capacity:				
	Volume basis, m^3	:			
	Method of agitating the grains in tank	:			
	Size of grain tank opening, mm	:			
	Provision of grain tank cover	:			
	Provision for indication of grain tank filling	:			

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1	2	3	4	5	6
1.3.18.1	**Grain conveying auger (Bottom of grain tank):**				
	Type	**:**			
	Size (length, dia. & pitch), mm	**:**			
	Speed corresponding to recommended field operation rpm of engine for field work, rpm	:			
	Type of drive	**:**			
	No. & type of bearings	**:**			
	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 for field work, rpm	**:**			
	Type of drive	**:**			
	No. & type of bearings	**:**			
	Safety device	**:**			
1.4	**Safety devices provided on the machine;**				
1.4.1	**Previous sample:**				
i)					
ii)					
iii)					
iv)					
v)					
vi)					
vii)					
1.4.2	**Present sample:**				
i)					
ii)					
iii)					
iv)					
v)					
vi)					
vii)					
1.5	**Details of operating controls, gauges and instruments**				
1.5.1	**Previous sample:**				
i)					
ii)					
iii)					
iv)					
v)					

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vi)							
vii)							
1.5.2	**Present sample:**						
i)							
ii)							
iii)							
iv)							
v)							
vi)							
vii)							
1.6	**Seat:**		**Previous sample asper test report No. ------**		**Present sample**		**Remarks**
	Make	**:**					
	Type	**:**					
	Type of suspension	**:**					
	Type of dampening	**:**					
	Horizontal adjustment, mm	**:**					
	Adjustment of back rest, mm	**:**					
1.7	**Canopy:**						
	Type	**:**					
	Canopy size, mm	**:**					
	Height from operator's platform, mm	**:**					
1.8	**Overall dimensions of combine harvester, cm**		**Working Position**	**Transport position**	**Working Position**	**Transport position**	
	Length	**:**					
	Width	**:**					
	Height	**:**					
1.9	**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	**:**					
1.10	**Ground clearance, mm**	**:**					
1.11	**Total number of lubricating points:**						
	Grease Nipples/grease holes	**:**					
	Greasing cups	**:**					
	Oiling	**:**					
2.12	**Colour of combine:**						
	Reel and chassis	**:**					
	Header unit and lower sheet metal	**:**					
	Upper sheet metal	**:**					
	Wheel rim	**:**					

1	2	3	4	5	6
1.13	**Header transport trailer**				
	Type	:			
	Size (L×W×H), mm	:			
	No. & type of wheel	:			
	Make	:			
	Size & Ply rating	:			
	Track width (mm)	:			
	Height of trailer hitch in transport position, mm	:			
1.14	**Details of labelling plate:**				
1.15	**Lubricants:**				
1.15.1	**Previous sample:**				

Sr. No.	Particulars	As recommended by the applicant	Oil change period (h)
1.	Engine oil		
2.	Hydraulic oil and Power steering oil		
3.	Transmission and final drive housing oil		
4.	Grease		

1.15.2	**Present sample:**				

Sr. No.	Particulars	As recommended by the applicant	Oil change period (h)
1.	Engine oil		
2.	Hydraulic oil and Power steering oil		
3.	Transmission and final drive housing oil		
4.	Grease		

2. TECHNICAL SPECIFICATIONS FOR STRAW CHOPPER CUM SPREADER (SMS) (IF FITTED)

2.1	**General:**		
	Make of SMS	:	
	Model of SMS	:	
	Type of SMS	:	
	Name and complete Address of the manufacturer of SMS including PIN/Mob./email etc.	:	
2.2	**Rotor:**		
	Rotor Diameter, mm	:	
	No. of lugs on rotor in a row	:	
	No. of rows in a periphery	:	
	Width of flail, mm	:	
	Thickness of flail, mm	:	
	No. of flail in one set	:	
	Spacing between flail of one set, mm	:	
	Distance between adjacent flail unit, mm	:	
	Rotor dia with blade, mm	:	
	No. of Rows/bar of serrated blade	:	
	No. of serrated blade in a row	:	
	Spacing between serrated blades, mm	:	
	Clearance between pivotal blade and concave	:	
	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, cm	:	
	Distance between flaps (left to right)	:	
	Spreader angle with horizontal, Degree	:	
	Spreader angle with line of travel , degree	:	
	Spreader sheet thickness, mm	:	
	SMS sheet thickness, mm	:	
2.5	**Overall dimensions (mm):**		
	Length	:	
	Width	:	
	Height	:	
2.6	**Overall Mass (kg)**	:	
2.7	**SAFETY REQUIREMENT FOR SMS:**		
	Guards over all moving parts	:	
	RPM indicator of rotor	:	
	Overlapping of flail and fixed serrated	:	

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	blade (The clearance should be adjustable)		
2.10	**Details of labelling plate:**		

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SELECTED PERFORMANCE AND OTHER CHARACTERISTICS AS PER IS 15806-2018
(TO BE DECLARED BY THE APPLICANT)

S. No	Characteristics		Category (Evaluative/ Non evaluative)	Requirement	Tolerance	Declarati-on by applicant (Previous/ Present sample	Remarks
1	2		3	4	5	6	7
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 (Bosch no.) at 80 percent load between the speed at max. power and 55 percent of speed at max. power or 1000 rpm whichever is higher.	Evaluative	As per CMV rules.	Nil	-	
	f)	Max. crank shaft torque, (Nm) observed during the test after no load engine speed is adjusted as per manufacturer's recommendation for field work	Evaluative	To be declared by manufacturer	±8%		
	g)	Back up torque, %	Evaluative	7 percent, (Min.)	Nil	-	

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1	2		3	4	5	6	7
	h)	**Max. Operating temperature, 0C:**					
	i)	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 would 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 per CMV rules.	Nil		
	b)	Max. Force exerted on brake pedal to achieve a deceleration of 2.5 m/sec^2	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 per CMV rules.	Nil		Based on the test conducted, Yes/No as the case may be indicated

1	2		3	4	5	6	7
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-stander's 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	Satisfactory completion	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)	Thickness of brake lining	Evaluative	-do-	Nil		
	b)	Thickness of clutch plate	Evaluative	-do-	Nil		
8. Field performance:							
	a)	Suitability for crops	Evaluative	Wheat & paddy (Wheel type) Paddy (Track type)	Nil		
	b)	Processing losses (%)	Evaluative	Wheat : Max 3% Barley : Max 4% Rice : Max 4% Sorghum : Max 3% Maize : Max 4% Oil seed rape : Max 4% Soya-beans : Max 5%	Nil		

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1	2		3	4			5	6	7
	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 auger ii) Undershot conveyor drive iii) Grain & tailing elevator	 Evaluative Non evaluative Non evaluative	 Essential Optional Optional			-		
	i)	Anti slip surfaces at operator platform & ladder & proper gripping for the control levers.	Evaluative	Essential			-	--	As per IS 12239 (Part 1)

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1	2		3	4	5	6	7
	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 blades for 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)	Non-Evaluative	Bush section : 20 to 35 HRC Edge section(Hardened zone) : 48 to 48 HRC Remainder zone: 20 to 35 HRC	-		
15.		Hardness of serrated blades for Straw Management System (SMS)	Non-Evaluative	Bush section : 20 to 35 HRC Edge section(Hardened zone) : 48 to 58 HRC Remainder 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----------

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