**COMBINE HARVESTER TEST FORM**

**DECLARATION REGARDING SELECTED PERFORMANCE AND OTHER CHARACTERISTICS AS PER IS: 15806-2008**

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| **Sr. No.** |  | **Characteristics** | **Requirement** | **Declared** |
| **1** | **2** | **3** | **4** | **5** |
|  | **Prime Mover Performance:** | |  |  |
|  | i) | Max. power (absolute) Average max. power observed during 2 hrs. max. power test in natural ambient condition kW | It should not be less than 5% of the declared valve. |  |
|  | ii) | Max. power observed during test after adjusting the no load engine speed as per recommendation of the manufacturer for field work, kw | Max. Power observed must not be less than 5% of declared value. |  |
|  | iii) | Power at rated engine speed, kw | The observed value must not be less than 5% of the declared value by the applicant. |  |
|  | iv) | Specific fuel consumption g/ kwh. | The average value during  2 hr. max. Power test must be within ±5% of the declared value by applicant/manufacture. |  |
|  | v) | Max. smoke density (bosch no.) at 80% load between the speed at max. Power & 55% of speed at max. Or 1000rpm whichever is higher should be observed as per CMVR rule. | For tractor:-  5.2 bosh no. or 75 hartridge  For engine:-  Free deceleration or natural aspirated or turbo charges 65 hartridge |  |
|  | vi ) | Max. crank shaft torque, (N-m) observed during the test after no load engine speed is adjusted as per manufacture’s recommendation for field work | It must not be less than 8% of declare value of manufacturer. |  |
|  | vii) | Back up torque, % | 7% min. |  |

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| **1** | **2** | | **3** | | **4** | | | **5** |
|  | viii) | | Max. operating temp. to be declared by manufacturer | | 1. engine oil 2. coolant | | |  |
|  | ix) | | Lubrication oil consumption, g/kwh | | 1% of SFC at max. Power during high ambient condition. | | |  |
|  | **Brake Performance:** | | | |  | | |  |
|  | i) | | Max. stopping distance at a force equal to or less than 600 N on break pedal, m | | 10 m or s≤0.15v +v²/130 v=speed corresponding to 80% of design max. Speed, kmph. | | |  |
|  | ii) | | Max. force exerted on brake pedal to achieve a deceleration of 2.5 m/sec² | | ≤ 600N. | | |  |
|  | iii) | | Whether parking brake is effective at a force of 600 N at foot pedal or 400 N at hand and lever | | Yes or No. | | |  |
|  | **Mechanical Vibration:** | | | |  | | |  |
|  | i) | | Operator’s platform | | 120µm max. | | |  |
|  | ii) | | Steering wheel | | 150µm max. | | |  |
|  | iii) | | Seat with driver seated | | 120µm max. | | |  |
|  | **Air cleaner oil pull over(%)** | | | | 0.25 | | |  |
|  | **Noise Measurement :** | | | |  | | |  |
|  | i) | | Max. ambient noise emitted by combine db(A) | | 88 dB (A) as per CMVR | | |  |
|  | ii) | | Max. noise at operator’s ear level db(B) | | 98 dB (A) as per CMVR. | | |  |
|  | | **Discard Limit:** | | | |  |  | |
|  | | i) | | Cylinder bore diameter | | Should not exceed the values declared by the manufacture |  | |
|  | | ii) | | Piton diameter | | -do- |  | |
|  | | iii) | | Clearance between piston and cylinder liner at skirt | | -do- |  | |
| **1** | | **2** | | **3** | | **4** |  | |
|  | | iv) | | Ring End gap  Top comp. ring.  2nd comp. ring.  Oil ring | | -do- |  | |
|  | | v) | | Ring groove clearance  Top comp. ring.  2nd comp. ring.  Oil ring | | -do- |  | |
|  | | vi) | | Diametrical clearance of main bearing | | -do- |  | |
|  | | vii) | | Crank shaft end float | | -do- |  | |
|  | | viii) | | Diametrical clearance of big end bearings | | -do- |  | |
|  | | ix) | | Axial clearance of big end bearings | | -do- |  | |
|  | | x) | | Thickness of brake lining | | -do- |  | |
|  | | xi) | | Thickness of clutch plate | | -do- |  | |
|  | | **Field Performance:** | | | |  |  | |
|  | | i) | | Suitability for crops | | Paddy |  | |
|  | | ii) | | Grain breakage in grain tank | | ≤ 2.5% |  | |
|  | | iii) | | Non collectable | | ≤ 2.5% for wheat, paddy & gram ≤ 4.0% for soybean |  | |
|  | | iv) | | Threshing efficiency | | ≥ 98% wheat & paddy |  | |
|  | | v) | | Cleaning efficiency | | ≥ 96% wheat & paddy |  | |
|  | | **Safety requirement:** | | | |  |  | |
|  | | i) | | Guards against all moving parts | | Essential |  | |

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| **1** | **2** | **3** | | **4** | **5** |
|  | ii) | Lighting arrangement   1. Head light 2. Parking light 3. Indication 4. Reverse gear 5. Brake 6. Number plate | | Essential as per CMVR |  |
|  | iii) | Grain tank cover | | Essential |  |
|  | iv) | Spark arrester in engine’s exhaust | | Essential |  |
|  | v) | Stone trap before concave | | Essential |  |
|  | vi) | Rear view mirror | | Essential |  |
|  | vii) | Slip clutch at following driver –   1. Cutting platform 2. Under shout conveyor drive 3. Grain & tailing elevator | | Essential |  |
|  | viii) | Anti slip surfaces at operator platform & ladder & proper gripping for the control levers. | | Essential |  |
|  | ix) | Working clearance around the controls | | Essential  70 mm, min |  |
|  | x) | Labeling of control, gauge | | Essential |  |
|  | i) | | Guard should conforms to IS: 6024- 1983 | The guard (except ledger plate) shall be manufactured from malleable iron casting (Is: 2108-1977), steel casting (Is: 1030-1947) or steel forging (IS: 2004-1978) |  |
|  | ii) | | Knife blade As per IS: 6025-1982 | It must have chemical composition as  C= 0.70-0.95%  Mn= 0.30-0.50% |  |
|  | iii) | | Knife back Must meet the requirement of IS: 10378-1982 | The knife back shall be manufactured from carbon steel having minimum carbon content of 0.35% |  |

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| **1** | | | **2** | **3** | **4** | | **5** |
|  | | | **Labelling of combine harvester (Provision of Labeling plate):** | | | |  |
|  | 1) | | Make | | Should conform to the requirements of IS: 10273- 1987 along-with declared value of HP | -- |
| 2) | | Model | | -- |
| 3) | | Year of manufacture | | -- |
| 4) | | Engine number | | -- |
| 5) | | Chassis number | | -- |
| 6) | | Declaration of power, (kW) | | -- |