**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 during2 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 hartridgeFor 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 | Essential70 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) | -- |