



**MAHINDRA, 265 DI MKM POWER PLUS TRACTOR
(Brand Name: Bhoomiputra)**



भारत सरकार

GOVERNMENT OF INDIA

कृषि मंत्रालय (कृषि एवं सहकारिता विभाग, मशीनीकरण एवं प्रोद्योगिकी प्रभाग)

Ministry of Agriculture (Deptt. of Agri. & Co-op, Mechanization & Technology Division)

केन्द्रीय कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान

CENTRAL FARM MACHINERY TRAINING & TESTING INSTITUTE

(An ISO : 9001-2008 Certified Institute)

ट्रैक्टर नगर, बुदनी (म.प्र.) ४६६ ४४५ TRACTOR NAGAR, BUDNI (M.P.) 466445

Phone : 07564-234729 Fax : 07564-234743 E-mail : fmti-mp@nic.in Website: <http://cfmtti.dacnet.nic.in>



T-885/1400/2013

MAHINDRA, 265 DI MKM POWER PLUS TRACTOR –
(Brand Name: Bhoomiputra) Commercial (Initial)

Manufacturer : M/s. Mahindra & Mahindra Limited
(Farm Equipment Sector), Akurli Road,
Kandivli (E), MUMBAI – 400 101

Location of other manufacturing plants (apa) : M/s. Mahindra & Mahindra Limited
(Farm Equipment Sector)
Hingna Road, Hingna MIDC
NAGPUR - 440016. (Maharashtra)

: M/s. Mahindra & Mahindra Limited
(Farm Equipment Sector)
Agri Business Development Centre, Khatima
Panipat Highway, Udham Singh Nagar,
Vil. Lalpur, Tehsil-Kichha,
RUDRAPUR-263153, (Uttanchal)

: M/s. Mahindra & Mahindra Limited
(Farm Equipment Sector)
Agri Development Centre, Vil-Mehla
Tehsil-Dudu Jaipur- Ajmer Road,
JAIPUR-303007, (Rajasthan)

M/s. Mahindra & Mahindra Limited
(Farm Equipment Sector)
Near Bidar 'T' Junction,
Mahindra Nagar, Zaheerabad,
Medak district- (A.P.)- 502 220

Test requested by (applicant) : M/s Mahindra & Mahindra Limited
(Farm Equipment Sector), Akurli Road,
Kandivli (E), MUMBAI – 400 101

Selected for test by
Place of running-in

Duration of said running-in (h):

- Engine

- Transmission

Method of Selection

: Applicant
: At applicant's works

: 15

: 30

: The tractor was submitted directly by the
applicant for test. Hence method of selection
is not known.

1. SPECIFICATION

1.1 Tractor:
Make : Mahindra
Model : 265 DI MKM Power Plus
Variants, if any(as declared)

| S.No. | Variant model* | Brand Name | Variant features |
|-------|--|-------------|--|
| 1 | Mahindra 265 DI MKM DLX Power Plus | Bhoomiputra | Dry Brakes , Hydrostatic steering, Reverse CRPTO & 13.6-28 size rear tyre |

* The variant model yet to be submitted for test/verification at this Institute



T-885/1400/2013

MAHINDRA, 265 DI MKM POWER PLUS TRACTOR –
(Brand Name: Bhoomiputra) Commercial (Initial)

Brand name : Bhoomiputra
Type : Four wheel, Rear-wheel drive, General
Purpose, Agricultural Tractor
Year of manufacture : 2011
Chassis number : NEBPP 101
Country of Origin : INDIA

1.2 Engine:
Make : Mahindra
Model : MDI 18953 A
Type : Four stroke, naturally aspirated, liquid cooled,
direct injection, diesel engine.

Serial number : NEBPP 101

Engine speed (Manufacturer's recommended production setting) (rpm) :

- Maximum speed at no load : 2075 to 2175
- Low idle speed : 750 to 850
- Speed at maximum torque : 1300 to 1500

Rated speed, (rpm):

- For PTO use : 1900
- For drawbar use : 1900

1.3 Cylinder & Cylinder Head:

Number : Three
Disposition : Vertical, inline
Bore/stroke, (mm) : 88.9 / 110
Capacity as specified by the applicant, (cc) : 2048
Compression ratio, (apa) : 20.2 : 1
Type of cylinder head : Monoblock
Type of cylinder liners : Wet, replaceable
Type of combustion chamber : Re-entrant bowl
Arrangement of valves : Overhead, inline

Valve clearance (cold/hot):

- Inlet valve, (mm) : 0.40 / 0.30
- Exhaust valve, (mm) : 0.50 / 0.40

1.4 Fuel System:

Type of fuel feed system : Gravity and force feed

1.4.1 Fuel tank:

Capacity, (l) : 49.25
Location : Above clutch housing
Provision for draining of sediments/
water : Not provided
Material of fuel tank : Sheet metal

1.4.2 Fuel feed pump:

Type : Plunger
Make : Bosch, India
Model/Group combination No. : FP/KS 22 AD 62, 9 440 030 029
Provision of sediment bowl : Provided (Metallic)
Method of drive : Through cam shaft of fuel injection pump



15.1.7 Valve, guides and timing gears: Observation
 Any marked sign of overheating of valves : **None**
 Pitting of seat/faces of valves : **None**
 Any visual damage to the teeth of timing gears : **None**

Spring Rate, (N/mm):
 Intake : 18.83 to 20.01 | Against the discard limit of 14.0 N/mm.
 Exhaust : 18.63 to 19.12

Clearance between valve guide and valve stem, (mm):
 Intake valve : 0.078 to 0.094 | discard limit of 0.20 mm.
 Exhaust valve : 0.067 to 0.078

15.2 Clutch:
 Any marked wear on clutch friction plate(s) : **None**
 Condition of clutch release bearing : Normal
 Condition of pilot bearing : Normal
 Condition of release lever & springs. : Normal
 Presence of oil in clutch housing : **None**
 Any marks on fly wheel/pressure plate : **None**
 Overall thickness of clutch plate,(mm) : 8.44 to 8.51 | Against discard limit of 5.30 mm
 Height of lining over rivet head, (mm) : 1.62 to 1.80 | Against discard limit of 0.20 mm

15.3 Transmission gears:
 Any visual damage, pitting & chipping of any transmission gear teeth : **None**
 Backlash between crown wheel and pinion, (mm) : 0.23 | Against discard limit of 0.30 mm

15.4 Brakes:

| Description | Initial specified thickness of brake disc (mm) | Measured thickness of brake disc after test, (mm) | Measured height of lining over rivet head, (mm) | Minimum permissible thickness of brake disc (mm) | Minimum permissible height of lining over rivet head, (mm) |
|-------------|--|---|---|--|--|
| Left | 4.75 | 4.84 to 4.86 | 0.55 to 0.77 | 4.15 | 0.15 |
| Right | 4.75 | 4.84 to 4.86 | 0.63 to 0.86 | 4.15 | 0.15 |

15.5 Front axle:
 Any marked wear of king pins : **None**
 Any marked wear of king pin bushes : **None**
 Clearance between king pins and bushes, (mm) : 0.12 to 0.17 | Against discard limit of 0.30 mm
 Condition of thrust bearings : Normal
 Condition of bearings for stub axles : Normal
 Condition of seals for stub axles and king pins : Normal
 Clearance between centre pin and bush, (mm) : 0.09 to 0.13 | Against discard limit of 0.30 mm



15.6 Steering system:
 Visual condition of the components of complete steering assembly : Normal

15.7 Starter motor & Alternator:
 Presence of soil/oil in housing : **None**
 Condition of bearings and other Components : Normal

16. ADJUSTMENTS, DEFECTS, BREAKDOWNS AND REPAIRS

| S. No. | Adjustment/ Defects/ breakdowns and Repairs | Tractor run hours |
|--------|---|-------------------|
| 1. | None | |

17. SUMMARY OF OBSERVATIONS, COMMENTS & RECOMMENDATIONS

17.1 Evaluative (mandatory) / Non-evaluation (Non-mandatory) parameters applicable for qualifying Minimum Performance criteria as per Clause-4 (Table-1) of IS: 12207-2008 for acceptance of the tractor for the purpose of subsidies/NABARD financing are summarized as under:

| S. No. | Characteristic | Category (Evaluative / Non Evaluative) | Requirements as per IS: 12207-2008 | Values declared by the applicant (D)/ Requirement (R) | As observed | Whether meets the requirements (Yes/No.) |
|---------------|---|--|---|---|-------------|--|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 17.1.1 | PTO Performance : | | | | | |
| a) | - Max. power under 2 h test, (kW) (Natural ambient condition) | Evaluative | Declared value to be achieved with a tolerance of: -5 / +10% for PTO power >35hp. - 7.5/+10% for PTO power ≤ 35 hp. | 24.27 (D) | 24.0 | Yes |
| b) | Power at rated engine speed, (kW) | Non Evaluative | -do- | 24.27 (D) | 23.8 | Yes |
| c) | Specific fuel consumption corresponding to maximum power, (g/kWh) | Non Evaluative | + 5% | 238 (D) | 237 | Yes |
| d) | Maximum equivalent crankshaft torque, (Nm) | Non Evaluative | ± 8% | 140 (D) | 130.5 | Yes |
| e) | Back-up torque, percent | Non Evaluative | 7 %, min. | 8.0 (D) | 9.5 | Yes |



T-885/1400/2013

MAHINDRA, 265 DI MKM POWER PLUS TRACTOR –
(Brand Name: Bhoomiputra) Commercial (Initial)

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|--------|---|----------------|---|-----------------------------------|-------|-----|
| f) | Maximum operating temperature (°C): | | | | | |
| 1) | Engine oil | Non Evaluative | The declared value should not exceed the max. value specified by the oil company and the observed value under high ambient condition should not exceed the declaration. | 130 (D) | 105 | Yes |
| 2) | Coolant | Evaluative | 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. | 112 (D) | 109 | Yes |
| g) | Engine oil consumption, (g/kWh) | Evaluative | Not exceeding 1% of SFC at max. power under High ambient conditions. | 2.37 | 0.23 | Yes |
| h) | Smoke level | Evaluative | Maximum light absorption coefficient of 3.25 per meter or equivalent BOSCH No. 5.2 or 75 Hatridge value (As per CMVR) | 3.25 per meter | 0.48 | Yes |
| 17.1.2 | Drawbar performance : | | | | | |
| a) | Max. drawbar pull with ballast corresponding to 15 percent wheel slip, (kN) | Non Evaluative | Minimum 65% of static mass with ballast | 16.7 (D) 17.24 (R) Minimum | 21.51 | Yes |
| b) | Max. drawbar pull with standard ballast corresponding to 15 percent wheel slip, (kN) | Evaluative | Minimum 65% of static mass of tractor with standard ballast | 11.33 (D) 11.63 (R) Minimum | 15.13 | Yes |
| c) | Maximum drawbar power without ballast/ with standard ballast, (kW). | Evaluative | Min. 80% of PTO power as referred in 17.1.1(a) of PTO performance | 19.41 (D) 19.2 (R) Minimum | 21.8 | Yes |
| d) | Max. transmission oil temperature (°C) | Non Evaluative | The declared value should not exceed the maximum value specified by oil company | 110 (D) | 80 | Yes |
| 17.1.3 | Power lift and hydraulic pump performance : | | | | | |
| a) | Maximum lifting capacity throughout the range of lift, (kN): | | | | | |
| 1) | At hitch points | Non Evaluative | [Tolerance of 10%] of minus | 12.0 (D) | 12.48 | Yes |
| 2) | With the standard frame | Evaluative | The lift capacity should at least be 18 kg/PTO hp. and it should be 16 kg/engine hp where the tractor is not provided with a PTO shaft | 8.0 (D) 5.77 (R) Minimum | 7.98 | Yes |
| b) | Maximum drop in the height of the point of application of the force after each 5 minutes interval for a total duration of 30 minute, (mm) | Non Evaluative | [Tolerance of plus 5 mm] | 250 (D) 50 (R) Maximum | 100 | Yes |



T-885/1400/2013

MAHINDRA, 265 DI MKM POWER PLUS TRACTOR –
(Brand Name: Bhoomiputra) Commercial (Initial)

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|--------|---|----------------|---|-------------|--|---|-----|
| 17.1.4 | Brake performance at 25 kmph: | | | | | | |
| a) | Maximum stopping distance at a force, equal to or less than 600 N on brake pedal with road ballast, (m): | | | | | | |
| 1) | Cold brake | Evaluative | | 10 | 10 (R) | 5.94 to 5.99 | Yes |
| 2) | Hot brake | Evaluative | | 10 | 10 (R) | 5.99 | Yes |
| b) | Maximum force exerted on the brake pedal to achieve a deceleration of 2.5 m/s ² (N) | Evaluative | | 600 | 600 (R) | 148 to 201 | Yes |
| c) | Whether parking brake is effective at a force of 600 N at foot pedal(s) or 400 N at hand lever | Evaluative | | Yes / No | Yes | Yes | Yes |
| 17.1.5 | Noise measurement : | | | | | | |
| a) | Maximum ambient noise emitted by the tractor dB(A) | Evaluative | | As per CMVR | 88 (R) | 83 | Yes |
| b) | Maximum noise at operator's ear level dB(A) | Evaluative | | As per CMVR | 98 (R) | 94 | Yes |
| 17.1.6 | Amplitude of mechanical vibrations at : | | | | | | |
| 1) | Left foot rest | Non Evaluative | 100 microns (max) | 100 (R) | 130 | No | |
| 2) | Right foot rest | | | 100 (R) | 130 | No | |
| 3) | Seat (with driver seated) | | | 100 (R) | 70 | Yes | |
| 4) | Steering wheel | | | 100 (R) | 100 | Yes | |
| 17.1.7 | Haulage requirements : | | | | | | |
| a) | Gross mass of the trailers, (tones): | | | | | | |
| 1) | Two wheel | Non Evaluative | | -- | 5.0 (D) | 5.0 | Yes |
| 2) | Four wheel | Evaluative | | -- | 6.0 (D) | 6.0 | Yes |
| b) | Distance travelled / liter of fuel consumption, (km/l): | | | | | | |
| 1) | Two wheel | Non Evaluative | | -- | 6 to 7 (D) | 6.55 to 6.62 | Yes |
| 2) | Four wheel | Evaluative | | -- | 6 to 7 (D) | 5.96 to 6.02 | Yes |
| c) | Fuel consumption (ml/km/tonne): | | | | | | |
| 1) | Two wheel | Non Evaluative | | -- | 35 to 45 (D) | 30.22 to 30.52 | Yes |
| 2) | Four wheel | | | | 35 to 45 (D) | 27.71 to 27.96 | Yes |
| 17.1.8 | Wetland cultivation : | | | | | | |
| | Sealing for the following assemblies: | Evaluative | The identified assemblies should essentially meet the requirement of IS: 11082. No water ingress in the identified assembly given in column-2. If tractor does not meet the requirements of wetland cultivation, it may be recommended for dry land operation only. | | There should be no ingress of water and/or mud (R) | No ingress of mud and / or water was observed | Yes |
| 1) | Clutch assembly | -do- | | | | | |
| 2) | Brake housings | -do- | | | | | |
| 3) | Front axle hubs | -do- | | | | | |



T-885/1400/2013

MAHINDRA, 265 DI MKM POWER PLUS TRACTOR –
(Brand Name: Bhoomiputra) Commercial (Initial)

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---------|--|----------------|--|----------------------------|-----------------------|-----|
| 17.1.9 | Safety features : | | | | | |
| a) | Guards against moving and hot parts | Evaluative | As per CMVR | At present no requirements | Provided | Yes |
| b) | Lighting arrangement | Evaluative | As per CMVR | -- | Provided | Yes |
| 17.1.10 | Labelling of tractors (Provision of labelling plate): | | | | | |
| 1) | Make | Evaluative | Should conform to the requirements of CMVR along-with declared value of PTO HP | -- | Mahindra | Yes |
| 2) | Model | Evaluative | | -- | 265 DI MKM Power Plus | Yes |
| 3) | Year of manufacture | Evaluative | | -- | 2011 GB | Yes |
| 4) | Engine number | Evaluative | | -- | NEBPP 101 | Yes |
| 5) | Chassis number | Evaluative | | -- | NEBPP 101 | Yes |
| 6) | Declaration of PTO power, (kW)(hp) | Evaluative | | -- | 24.27(33) | Yes |
| 17.1.11 | Discard limit for: | | | | | |
| (a) | Cylinder bore diameter, (mm) | Evaluative | To be specified by the manufacturer | 89.13 | 88.91 to 88.93 | Yes |
| (b) | Clearance between piston & cylinder liner at skirt, (mm) | Non Evaluative | | 0.20 | 0.091 to 0.094 | Yes |
| (c) | Ring end gap (mm): | | | | | |
| | - Top comp. ring. | Evaluative | To be specified by the manufacturer | 2.5 | 0.25 to 0.35 | Yes |
| | - 2 nd comp. ring. | | | 2.5 | 0.40 to 0.45 | Yes |
| | - Oil ring. | | | 2.0 | 0.25 | Yes |
| (d) | Ring groove clearance (mm): | | | | | |
| | - Top comp. ring. | Evaluative | To be specified by the manufacturer | -TAPERED- | | Yes |
| | - 2 nd comp. ring. | | | 0.30 | 0.048 to 0.049 | Yes |
| | - Oil ring. | | | 0.20 | 0.038 to 0.039 | Yes |
| (e) | Clearance of main bearings (mm): | | | | | |
| | - Diametrical clearance | Evaluative | -do- | 0.20 | 0.067 to 0.078 | Yes |
| | - Crankshaft end float | Evaluative | -do- | 0.60 | 0.16 | Yes |
| (f) | Clearance of big end bearings, (mm): | | | | | |
| | - Diametrical | Evaluative | -do- | 0.20 | 0.088 to 0.098 | Yes |
| | - Axial | Evaluative | -do- | 0.75 | 0.25 | Yes |
| (g) | Clearance between king pin and bush, (mm) | Non Evaluative | -do- | 0.30 | 0.12 to 0.17 | Yes |
| (h) | Clearance between center pin and bush, (mm) | Non Evaluative | -do- | 0.30 | 0.09 to 0.13 | Yes |



T-885/1400/2013

MAHINDRA, 265 DI MKM POWER PLUS TRACTOR –
(Brand Name: Bhoomiputra) Commercial (Initial)

| 17.1.12 CATEGORY OF BREAKDOWNS / DEFECTS : | | | | | |
|--|------------------|--|--|-------------|--|
| Sl. No. | Characteristic | Category (Evaluative / Non Evaluative) | Requirements as per IS: 12207-2008 | As observed | Whether meets the requirements (Yes/No.) |
| 1. | Critical | Evaluative | No critical breakdown | None | Yes |
| 2. | Major | Evaluative | Not more than two and neither of them should be repetitive in nature | None | Yes |
| 3. | Minor | Evaluative | Not more than five and frequency of each should not be more than two. | None | Yes |
| 4. | Total breakdowns | Evaluative | In no case, the total number of breakdowns should exceed five, that is, (2 major + 3 minor) or 5 minor breakdowns. | None | Yes |

| 17.2 Optional requirements as per Clause-4 (Table-2) of IS:12207-2008: | | | | |
|--|--|--|--------------------------------|---------|
| S. No. | Characteristic | Requirements as per IS: 12207-2008 | AS observed | Remarks |
| 1 | 2 | 3 | 4 | 5 |
| 1 | Maximum air cleaner oil pull over (%). | 0.25% (maximum) | 0.12 | Yes |
| 2. | Seating requirements | Should meet the requirements of IS: 12343-1998 | Does not meet the requirement | No |
| 3. | Fitment of ROPS | With a provision for fitment of ROPS. If ROPS fitted it should meet the requirement of IS: 11821-1992 | Not provided | No |
| 4. | Technical requirements for PTO shaft | Should meet the requirements of IS: 4931 -1995 | Does not meet the requirements | No |
| 5. | Dimensions of three point linkage | Should meet the requirements of IS: 4468 (Part-I)-1997 | Meets the requirements | Yes |
| 6. | Specifications of linkage drawbar | Should meet the requirements of IS: 12953-1990. | Meets the requirements | Yes |
| | Specifications of swinging drawbar | Should meet the requirements of IS:12362 Part 3-1994. | Not provided | -- |
| 7. | Accessories | Trailer hitch, front tow hook, linkage drawbar may be provided. | Front tow hook not provided | No |

- 17.3 Conformity with following IS:
- i) Guide lines for declaration of power and specific fuel consumption and labeling of agricultural tractors (First revision) [IS 10273:1987 (Reaffirmed in March, 2009)] : Conforms
 - ii) Agricultural tractors – Rear mounted power take-off - Types 1, 2 and 3(third revision)[IS: 4931-1995 (Reaffirmed in March, 2009)] : Does not conform
 - iii) Agricultural wheeled tractors - Rear mounted three-point linkage: Part 1 Categories 1, 2, 3 & 4 (fourth revision) [IS 4468(Part-I):1997(Reaffirmed in March, 2009)/ISO 730-1:1994] : Conforms
 - iv) Drawbar for agricultural tractors – Link type [IS 12953:1990 (Reaffirmed in March, 2007)] : Conforms



- v) Agricultural tractors - Operator's seat technical requirement [IS 12343 -1998 (First revision) (Reaffirmed in March, 2009)] : **Does not conform**
- vi) Guide for safety & comfort of operator of agricultural tractors: Part 1 General requirements (first revision) : [IS 12239 (PT-1) 1996/ISO 4254-1:1989 (Reaffirmed in (Reaffirmed in March, 2007))] : **Does not conform**
- vii) Tractors and machinery for agriculture and forestry, powered lawn and garden equipment – Symbols for operator controls and other displays [IS: 6283 (Part-1 & Part-2) –2006 & 2007 (Reaffirmed in March, 2009)]/ ISO 3767-2:1991] : **Conforms**
- viii) Tractors and machinery for agriculture and forestry – Technical means for ensuring safety Part 2: Tractors (first revision) (IS 12239 (PT-2) 1999) (Reaffirmed in March, 2009)] : **Conforms**
- ix) Guide lines for location and operation of operator controls on agricultural tractors and machinery (first revision) (IS: 8133 – 1983) (Reaffirmed in March, 2009)] : **Does not conform**
- x) Agricultural Tractor & Machinery Lighting device for travel on public roads (IS: 14683-1999) (Reaffirmed in March, 2009)] : **Conforms**

17.4 Salient Observations:**17.4.1 Laboratory tests:****17.4.1.1 PTO Performance:**

- i) The backup torque is only **9.48%**. this should be looked in to.
- ii) The specific fuel consumption corresponding to maximum power was measured as **237 g/kWh** against the declaration of 238 g/kWh, which is within the tolerance limit of IS: 12207-2008.

17.4.1.2 Drawbar performance:

During drawbar performance creeping of tyre over rim was observed as 25 mm & 20 mm for LHS and RHS tyres respectively, which is on higher side and calls for necessary corrective action.

17.4.1.3 Mechanical Vibration:

The amplitude of mechanical vibration on various assemblies marked as (*) in Chapter-9 of this test report is on higher side, especially at the steering control wheel and foot rest. This calls for dampening down of vibrations to improve the operational comfort and service life of components.

17.4.1.4 Three point linkage:

- i) Some of the parameters of three point linkage conforms to Cat.I and some of them conforms to Cat.II. Keeping in view the spirit of standardization, necessary improvement may be incorporated.

17.4.1.5 Specifications of Power Take-off Shaft:

Dimensions "dφ" (Refer Fig.2) of PTO shaft does not meets the requirement of IS:4931:1995. This should be looked into for compliance.

**17.4.1.6 Operator's Seat:**

- i) Width of Operator's seat does not meet the requirements of IS: 12343:1998 (Re-affirmed in March, 2009) and calls for necessary corrective action.
- ii) Longitudinal & vertical distance from Steering Control Wheel to seat index point (SIP) does not meet the requirements of IS: 12343:1998 (Re-affirmed in March, 2009) and calls for necessary corrective action.

17.4.1.7 Location and operation of operator's control:

- Operations of some of the operator's control do not meet the requirements of IS: 8133-1983. This may be looked into.
- i) Safety switch against accidental start of the engine has not been provided.

17.4.2 Field performance test:**17.4.2.1 Wet land cultivation (Puddling operation):**

No ingress of mud/or water was noticed during puddling operation of the tractor. Hence, It meets the requirements of IS:11082-1984 (Technical requirements of agricultural tractors for wetland operation). The tractor is suitable for wetland operation (Puddling).

17.5 Maintenance / Service Problems:

No noticeable maintenance or service problem was observed during the test. However, suitable provision for draining the sediments/water may be provided at the fuel tank.

17.6 Recommendation with regard to safety on tractor:

- The following requirements, inter alia, may be considered for incorporation on the tractor:
- i) Provision of safety against accidental start of engine.
- ii) Provision for spark arresting device in exhaust system.

17.7 Adequacy of Literature supplied with machine:**17.7.1** The following modified literatures have been supplied by the manufacturer.

- a) Operator's manual for DI Tractors
- b) Part's catalogue MKM/ DLX tractors
- c) Service manual for Mahindra tractors

17.7.2 The literature submitted by the firm was found adequate. However, the following points may be re-examined & suitably incorporated in the operator's manual:

- a) All variants model of tractor along with their features at a glance may be provided.

17.7.3 These literatures may also be brought out in national as well as other regional languages.




T-885/1400/2013


MAHINDRA, 265 DI MKM POWER PLUS TRACTOR –
(Brand Name: Bhoomiputra) Commercial (Initial)

18.0 Citizen charter

| Duration of Test | Test duration under citizen charter | Whether the report released within time frame given in the citizen charter | Remark |
|--|-------------------------------------|--|--------|
| February 2013 to June 2013 5 Months | 10 Months | Yes | -- |

TESTING AUTHORITY:


R.K.NEMA
AGRICULTURAL ENGINEER


P. K. VERMA
SENIOR AGRICULTURAL ENGINEER


C.R.LOHI
DIRECTOR

19. Applicant's Comments

| Para No. | Our Reference | Applicant's comments |
|----------|--|---|
| 19.1 | 17.4.1.2, 17.4.1.3, 17.4.1.4 (i), 17.4.1.5, 17.4.1.6 (i & ii), 17.6 (i & ii) | Observations are being studied. Necessary actions will be incorporated. |



T-885/1400/2013

MAHINDRA, 265 DI MKM POWER PLUS TRACTOR –
(Brand Name: Bhoomiputra) Commercial (Initial)ANNEXURE-IBRIEF SPECIFICATION OF IMPLEMENTS USED DURING FIELD TEST

| S. No. | Item | Disc Plough | Rotavator | Puddler |
|--------|----------------------------------|---------------------|--------------|---------------------|
| 1. | Make | Mahindra & Mahindra | Tafe | No available |
| 2. | Type | Mounted | Mounted | Mounted |
| 3. | No. of bottoms/blades | Two | 30 | 12 (6 in each gang) |
| 4. | Type of bottoms/blades | Plane concave | Hatchet | Notched |
| 5. | Size of bottoms/blades, (mm) | 635 | 135 x 75 x 5 | 460 |
| 6. | Spacing of bottoms/flanges, (mm) | 510 | 230 | 164 |
| 7. | Lower hitch point span, (mm) | 635 | 705 | 680 |
| 8. | Mast height, (mm) | 470 | 560 | 680 |
| 9. | Overall dimensions, (mm): | | | |
| | - Length | 1520 | 1000 | 1190 |
| | - Width | 1190 | 1420 | 1810 |
| | - Height | 1005 | 1070 | 1330 |
| 10. | Gross mass, (kg) | 310 | 420 | 240 |

ANNEXURE-IIBRIEF SPECIFICATION OF HALF CAGE WHEEL

| S. No. | Items | Specification |
|--------|---------------------------------|---|
| 1. | Type | Half cage wheel |
| 2. | Dia, (mm) | 1085 |
| 3. | Width, (mm) | 355 |
| 4. | No. and types of lugs | 12, straight lugs made of M.S. angle section welded to angle iron frame |
| 5. | Size of angle section, (mm) | 50 x 50 x 5 |
| 6. | Length of lugs, (mm) | 350 |
| 7. | Spacing of lugs, (mm) | 285 |
| 8. | Weight of each cage wheels (kg) | 60 |