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**COMMERCIAL TEST REPORT (INITIAL)**

Lk[; k/No. : T-1719/2250/2023

ekg/Month : March, 2023

**[ONLINE TESTING]**

(यह परीक्षण रिपोर्ट 31/03/2028 तक वैध है / THIS TEST REPORT IS VALID UPTO 31/03/2028)



## **MAHINDRA, 575 DI XP PLUS TRACTOR**



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**GOVERNMENT OF INDIA**

**MINISTRY OF AGRICULTURE AND FARMERS WELFARE**

(DEPARTMENT OF AGRICULTURE & FARMERS WELFARE)

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**CENTRAL FARM MACHINERY TRAINING & TESTING INSTITUTE**

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T-1719/2250/2023	MAHINDRA, 575 DI XP PLUS TRACTOR - COMMERCIAL (INITIAL)
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**Manufacturer** : M/s. Mahindra & Mahindra Limited  
(Farm Equipment Sector)  
Mahindra Research Valley, Mahindra  
World City, Plot no. 41/1, Anjur P.O.,  
District Chengalpattu - 603004.

<b>Month: March</b>	<b>Test Report No.: T-1719/2250/2023</b>	<b>Year: 2023</b>
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**GOVERNMENT OF INDIA**  
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T-1719/2250/2023	<b>MAHINDRA, 575 DI XP PLUS TRACTOR - COMMERCIAL (INITIAL)</b>
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## 1. SPECIFICATIONS

- 1.1 Tractor:**
- Make : Mahindra  
 Model : 575 DI XP PLUS  
 Brand name, if any : Bhoomiputra (apa)  
 Type : Rear Wheel Drive, Standard Agricultural Tractor.  
 Month & year of manufacture : 04/22  
 Chassis number : MBNGAALDNNNA02481  
 Country of origin : India
- 1.2 Engine:**
- Manufacturer's address : M/s. Mahindra & Mahindra Limited  
 (Farm Equipment Sector)  
 i) Akurli road, Kandivali (E), Mumbai - 400101  
 ii) MIDC, Hingna Road, Nagpur - 440028  
 iii) Khatima Panipat Highway, Rudrapur, Udhamsinghnagar, Pin - 263153  
 iv) Jaipur Ajmer Road Jaipur, Pin - 303007  
 v) Near Bidar "T" Junction, Mahindra Nagar, Zaheerabad- 502 220  
 vi) Mahindra Research Valley, Mahindra World City, Plot no. 41/1, Anjur P.O., District Chengalpattu - 603004.
- Make : Mahindra  
 Model : MM30473AH  
 Type : Four stroke, naturally aspirated, liquid cooled, direct injection, diesel engine.  
 Serial number : NNA2GCJ0004  
 Country of origin : India
- 1.2.1 Engine speed (rpm), (Manufacturer's recommended production settings):**
- Maximum speed at no load : 2175 to 2375  
 - Low idle speed : 750 to 850  
 - Speed at maximum torque : 1100 to 1400
- Rated speed, (rpm):**
- For PTO use : 2000  
 - For drawbar use : 2000
- 1.3 Cylinder & Cylinder Head:**
- Number : Four  
 Disposition : Vertical, Inline  
 Bore/stroke, (mm) : 88.9/120 (apa)  
 Capacity as specified by the applicant, (cc) : 2979  
 Compression ratio : 20 (±1) : 1  
 Type of cylinder head : Monoblock  
 Type of cylinder liners : Wet, replaceable  
 Type of combustion chamber : Re-entrant cavity on piston crown  
 Arrangement of valves : Overhead, inline
- | <b>Valve clearance (cold/hot):</b> | <b>Cold</b> | <b>Hot</b> |
|------------------------------------|-------------|------------|
| - Inlet valve, (mm)                | 0.4         | 0.3        |
| - Exhaust valve, (mm)              | 0.5         | 0.4        |
- 1.4 Fuel System:**
- Type of fuel feed system : Gravity and force feed
- 1.4.1 Fuel tank:**
- Capacity, (l) : 48.2  
 Location : Above clutch housing  
 Provision for draining of sediments/ water : Provided  
 Material of fuel tank : Metallic

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**16.6 Steering system:**

Visual condition of the components of : Normal  
complete steering assembly

**16.7 Starter motor & Alternator:**

**Observation**

Presence of soil/oil in housing : None  
Condition of bearings and other components : Normal

**17. ADJUSTMENTS, DEFECTS, BREAKDOWNS AND REPAIRS**

S.No.	Adjustments/Defects/Breakdowns and Repairs	Tractor run hours
--	None	--

**18. SUMMARY OF OBSERVATIONS, COMMENTS & RECOMMENDATIONS**

**18.1** On the basis of test conducted the performance results have been summarized as evaluative (mandatory) / Non-evaluative (Non-mandatory) parameters applicable for Qualifying Minimum Performance criteria as per Clause-4 (Table-1) of **IS: 12207-2019** for acceptance of the tractor for the purpose of subsidies/NABARD financing are summarized as under:

Sl. No.	Characteristic	Category (Evaluative / Non Evaluative)	Requirements as per IS: 12207-2019	Values declared by the applicant/ (D) Requirement (R)	As observed	Whether meets the requirements (Yes/No)
1	2	3	4	5	6	7
<b>18.1.1</b>	<b>PTO Performance:</b>					
<b>a)</b>	Maximum power under 2 h test, (kW) (Natural ambient condition)	Evaluative	Declared value to be achieved with a tolerance of: $\pm 5\%$ for PTO power and or engine power $> 26$ kW. $\pm 10\%$ for PTO power and or engine $\leq 26$ kW.	31.2 (D)	32.8	Yes
<b>b)</b>	Power at rated engine speed, (kW)	Non Evaluative	-do-	31.2 (D)	32.2	Yes
<b>c)</b>	Specific fuel consumption corresponding to maximum power, (g/kWh)	Evaluative	+ 10% max.	248 (D)	248	Yes
<b>d)</b>	Maximum equivalent crankshaft torque, (Nm)	Non Evaluative	$\pm 8\%$	192.0 (D)	180.1	Yes
<b>e)</b>	Back-up torque, percent	Evaluative	12 percent	15 (D) 12 (R) Minimum	17.0	Yes
<b>f)</b>	Maximum operating temperature, ( $^{\circ}$ C):					
	1) Engine oil	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)	113	Yes

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1	2		3	4	5	6	7
	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.	115 (D)	99	Yes
<b>g)</b>	Engine oil consumption, (g/kWh)		Evaluative	Not exceeding 1% of SFC at max. Power under High ambient conditions.	2.48 (R) Maximum	0.18	Yes
<b>h)</b>	Smoke level, m <sup>-1</sup>		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 (R) Maximum	0.32	Yes
<b>18.1.2</b>	<b>Drawbar performance:</b>						
<b>a)</b>	Max. drawbar pull with ballast corresponding to 15 percent wheel slip, (kN)		Non Evaluative	Minimum 70% of static mass of tractor with ballast.	17.24 (D) 17.30 (R) Minimum	19.74	Yes
<b>b)</b>	Max. drawbar pull without ballast corresponding to 15 percent wheel slip, (kN)		Evaluative	Minimum 70% of static mass of tractor without ballast or with standard ballast, as the case may be.	12.56 (D) 12.63 (R) Minimum	15.06	Yes
<b>c)</b>	Maximum drawbar power without ballast, (kW).		Evaluative	Minimum 80 % of PTO power as referred in SI No. i) a) of PTO performance in case of tractors having total static mass > 1500 kg Minimum 75 % of PTO power as referred in SI No. i) a) of PTO performance in case of light weight tractors having ≤1500 kg total static mass of tractor Minimum 75 % of the engine power as referred in SI No. i) a) of engine performance in case of tractors which do not have a PTO shaft.	24.96 (D) 26.2 (R) Minimum	29.3	Yes
<b>d)</b>	Maximum transmission oil temperature, (°C)		Evaluative	The declared value should not exceed the maximum value specified by oil company	120 (D)	77	Yes
<b>18.1.3</b>	<b>Power lift and hydraulic pump performance:</b>						
<b>a)</b>	Maximum lifting capacity throughout the range of lift, (kN):						
	1)	At hitch points	Evaluative	Tolerance of ± 10%	14.60 (D)	13.36	Yes
	2)	With the standard frame	Evaluative	The lift capacity should at least be 24 kg/PTO kW and it should be 21.5 kg/engine kW where the tractor is not provided with a PTO shaft.	10.20 (D) 7.72 (R) Minimum	9.22	Yes
<b>b)</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 Minutes, (mm)		Non Evaluative	The observed value should not exceed 50 mm	50 (D) Maximum	60	<b>No</b>

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1	2	3	4	5	6	7	
<b>18.1.4</b>	<b>Brake performance at 25 kmph:</b>						
<b>a)</b>	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)	7.35	Yes
	2)	Hot brake	Evaluative	10	10 (R)	7.44	Yes
<b>b)</b>	Maximum force exerted on the brake pedal to achieve a deceleration of 2.5 m/s <sup>2</sup> . (N)		Evaluative	600	600 (R) Maximum	154 to 210	Yes
<b>c)</b>	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
<b>18.1.5</b>	<b>Noise measurement:</b>						
<b>a)</b>	Maximum ambient noise emitted by the tractor, dB(A)		Evaluative	88 dB (A) for >1.5 tonne GVW and 85 db (A) for <1.5 tonne GVW (as per CMVR)	88 (R)	84	Yes
<b>b)</b>	Maximum noise at operator's ear level, dB(A)		Evaluative	96 (as per CMVR)	96 (R)	95	Yes
<b>18.1.6</b>	<b>Amplitude of mechanical vibrations at:</b>						
	1)	Left foot rest	Non	100 microns (max.)	100 (R)	64	Yes
	2)	Right foot rest	Evaluative			45	Yes
	3)	Seat (with driver seated)				91	Yes
	4)	Steering wheel				109	<b>No</b>
<b>18.1.7</b>	<b>Air cleaner:</b>						
	Maximum air cleaner oil pull over, (%)		Evaluative	0.25 (Max.)	0.25 (Max.)	0.10	Yes
<b>18.1.8</b>	<b>Haulage requirements:</b>						
<b>a)</b>	Gross mass of the trailers, (tonne):						
	Two wheel		Non Evaluative	As specified by the manufacturer	5.0 (D)	5.0	Yes
	Four wheel		Non Evaluative		7.0 (D)	7.0	Yes
<b>b)</b>	<b>Distance travelled / liter of fuel consumption, (km/l):</b>						
	Two wheel		Non Evaluative	As specified by the manufacturer	5.0 to 6.0 (D)	5.31 to 5.63	Yes
	Four wheel		Non Evaluative		5.0 to 6.0 (D)	5.43 to 5.52	Yes
<b>c)</b>	<b>Fuel consumption, (ml/km/tonne):</b>						
	Two wheel		Non Evaluative	As specified by the manufacturer	30 to 35 (D)	32.88 to 34.82	Yes
	Four wheel		Non Evaluative		25 to 30 (D)	23.83 to 24.18	<b>No</b>

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1	2	3	4	5	6	7	
18.1.9	<b>Wetland cultivation:</b>						
	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 water and/or mud was observed	Yes
	1)	Clutch assembly	-do-				
	2)	Brake housings	-do-				
	3)	Front axle hubs	-do-				
	4)	Engine Oil	-do-				
5)	Transmission Oil	-do-					
18.1.1	<b>Safety features:</b>						
a)	Guards against moving and hot parts		Evaluative	Belt drives, pulleys, silencer, hydraulic pipes (As per IS 12239 (Part2)	Meets the requirement	Yes	
b)	Lighting arrangement		Evaluative	As per CMVR	Meets the requirement	Yes	
c)	Seating requirements (Tractors having more than 1150 mm rear track width)		Non Evaluative	Should meet the requirements of IS: 12343 (As amended from time to time)	<b>Does not meet the requirement</b>	<b>No</b>	
d)	Technical requirements for PTO shaft		Evaluative	Should meet the requirements of IS: 4931 (As amended from time to time)	Meets the requirement	Yes	
e)	Dimensions of three point linkage		Non Evaluative	Should meet the requirements of IS: 4468 (Part-I) (As amended from time to time)	<b>Does not meet the requirement</b>	<b>No</b>	
f)	Specifications of linkage drawbar		Evaluative	Should meet the requirements of IS: 12953 (As amended from time to time)	Meets the requirement	Yes	
g)	Swinging drawbar (wherever fitted)		Evaluative	Should meet the requirement of IS: 12362 (Part 3) (As amended from time to time)	Not provided	Not applicable	
h)	1)	Maximum travelling speed at rated engine speed in reverse gears, kmph	Evaluative	Should not exceed 20 Kmph	11.88 (Meets the requirement)	Yes	
	2)	Audible warning signal on tractor	Evaluative	As soon as the travelling speed in reverse gear reaches to 20 kmph, an audible warning signal on tractor shall be activated. The safety aspects about the operation of shuttle technology shall be brought in operation and manufacturer /dealer shall ensure the training on this aspect to operator before the delivery of tractor.	Not fitted	Not applicable	

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1	2	3	4	5	6	7		
18.1.1	<b>Labelling of tractors (Provision of labelling plate):</b>							
1	1)	Make	Evaluative	Should conform to the requirements of CMVR along with maximum PTO Power in kW and year of manufacture in numerical form. MM YY Digit 01 – 12 in box No.1 for MM will represent the months and next two digits in box No.2 for YY will represent the year of Manufacturing.	Mahindra	Yes		
	2)	Model	Evaluative		575 DI XP PLUS	Yes		
	3)	Month & Year of manufacture	Evaluative		04/22	Yes		
	4)	Engine number	Evaluative		NNA2GCJ0004	Yes		
	5)	Chassis number	Evaluative		MBNGAALDNN NA02481	Yes		
	6)	Maximum PTO power, (kW)	Evaluative		31.2	Yes		
	7)	Specific fuel consumption (g/kWh)	Evaluative		248	Yes		
18.1.12	<b>Discard limit for:</b>							
(a)	Cylinder bore diameter, (mm)		Evaluative	To be specified by the manufacturer and supported by the printed literature	89.13	88.900 to 88.917	Yes	
(b)	Clearance between piston & cylinder liner at skirt, (mm)		Non Evaluative		0.20	0.094 to 0.108	Yes	
(c)	Piston diameter at skirt, (mm)		Non Evaluative		88.15	88.809 to 88.812	Yes	
d)	<b>Ring end gap (mm):</b>							
	-	Top comp. ring.	Evaluative	To be specified by the manufacturer and supported by the printed literature	2.5	0.30 to 0.35	Yes	
	-	2 <sup>nd</sup> comp. ring.			2.5	0.55 to 0.60	Yes	
	-	Oil ring.			2.0	0.25 to 0.30	Yes	
(e)	<b>Ring groove clearance (mm):</b>							
	-	Top comp. ring.	Evaluative	To be specified by the manufacturer and supported by the printed literature	0.30	-Tapered-	--	
	-	2 <sup>nd</sup> comp. ring.			0.30	0.068 to 0.070	Yes	
	-	Oil ring.			0.20	0.049 to 0.051	Yes	
(f)	<b>Clearance of main bearings (mm):</b>							
	-	Diametrical clearance	Evaluative	To be specified by the manufacturer and supported by the printed literature	0.20	0.046 to 0.064	Yes	
	-	Crankshaft end float	Evaluative		0.60	0.15	Yes	
(g)	<b>Clearance of big end bearings, (mm):</b>							
	-	Diametrical	Evaluative	-do-	0.20	0.078 to 0.082	Yes	
	-	Axial	Evaluative	-do-	0.75	0.20	Yes	
(h)	Clearance between king pin and bush, (mm)		Non Evaluative	-do-	0.30	0.06 to 0.07	Yes	
(i)	Clearance between centre pin and bush, (mm)		Non Evaluative	-do-	0.30	0.09	Yes	



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1	2	3	4	5	6	7
<b>18.1.13</b>	<b>Literature (Submission to test agency)</b>					
<b>(a)</b>	Operator manual	Evaluative	Provided / Not Provided	Provided	Provided	Yes
<b>(b)</b>	Parts Catalogue	Evaluative	Provided / Not Provided	Provided	Provided	Yes
<b>(c)</b>	Workshop/ Service manual	Evaluative	Provided / Not Provided	Provided	Provided	Yes
<b>18.1.14</b>	<b>Fitment of Roll Over Protective Structures (ROPS):</b>					
	For tractor having more than 1150 mm rear track width	Evaluative	ROPS should meet the requirement of IS:1182 or OECD code or equivalent International Standard		Not fitted	Not applicable
<b>18.1.15</b>	Standard Accessories	Evaluative	Trailer hitch, front tow hook, linkage drawbar should be provided with tractor		Provided	Yes
<b>18.1.16</b>	Accessories (optional)	Non Evaluative	Ballast weight, if fitted, should meet the requirement of CMVR		Not fitted	Not applicable
<b>18.2</b>	<b>CATEGORY OF BREAKDOWNS / DEFECTS ( As per clause 5.0 of IS:12207-2019):</b>					
S. No.	Category of breakdowns	Category (Evaluative / Non Evaluative)	Requirements as per IS: 12207-2019	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 (1 major + 4 minor) or 5 minor breakdowns.	None	Yes	

**18.3 Conformity with following IS:**

- i)** Guide lines for declaration of power and specific fuel consumption and labeling of agricultural tractors (First revision) [IS10273: 1987 (Reaffirmed in January, 2019)] : **Conforms**
- ii)** Agricultural tractors - Rear mounted power take-off - Types 1, 2 and 3 (third revision) [IS:4931-1995 (Reaffirmed in January, 2019)] : **Conforms**
- iii)** Agricultural wheeled tractors - Rear mounted three-point linkage: Part 1 Categories 1, 2, 3 & 4 (fourth revision) [IS 4468(Part-I):1997/ISO 730-1:1994 (Reaffirmed in 2017)] : **Does not conform**
- iv)** Drawbar for agricultural tractors – Link type [IS 12953:1990 (Reaffirmed October, 2017)] : **Conforms**
- v)** Agricultural tractors - Operator's seat technical requirement [IS 12343 –2021] : **Does not conform**
- vi)** Guide for safety & comfort of operator of agricultural tractors: Part 1 General requirements (first revision): [IS 12239 (PT-1)-2018 /ISO 4254-1:2018] : **Does not conform**
- vii)** Tractors and machinery for agriculture and forestry – Technical means for ensuring safety Part 2: Tractors (first revision) (IS 12239 (PT-2) 1999) (Reaffirmed in January, 2019)] : **Does not conform**
- viii)** Guidelines for location and operation of operator controls on agricultural tractors and machinery (first revision) IS: 8133- 2021 : **Does not conform**

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- ix) Tractors and machinery for agriculture and forestry, powered lawn and garden equipment - Symbols for operator controls and other displays Part 2 Symbols for agricultural tractors and machinery [IS:6283 (Part-1)- 2006 and IS: 6283 (Part-2)- 2007 (Reaffirmed in January, 2019)] : Conforms
- x) Agricultural Tractors and Machinery - Lighting device for travel on public roads (IS: 14683-1999) (Reaffirmed in January, 2019)] : Conforms

**18.4 Salient Observations:**

**18.4.1 Laboratory tests:**

**18.4.1.1 Power Lift and Hydraulic Performance Test:**

During lift load maintenance test, the maximum drop in the height of the point of application of the force for a total duration of 30 minutes has been observed as 60 mm against the maximum limit of 50 mm and does not meet the non evaluative requirement of IS: 12207 - 2019. This should be looked into for necessary corrective action at production level.

**18.4.1.2 Mechanical Vibration**

The amplitude of mechanical vibration on various assemblies marked as (\*) in Chapter – 10 of this test report is on higher side. This calls for dampening down of vibrations especially on steering wheel to improve the operational comfort and service life of components.

**18.4.1.3 Operator's seat:**

- i) Adjustment of driver's mass should be provided as per the relevant Indian Standard.
- ii) Vertical distance from Seat Index Point to the centre accelerator pedal was measured as 530 mm which is not within the range of 230 to 460 mm.
- iii) Longitudinal distance from Seat Index Point to centre of steering control wheel was measured as 570 mm which is not within the range of 425 to 525 mm.
- iv) Vertical distance from Seat Index Point to centre of steering control wheel was measured as 210 mm which is not within the range of 265 to 385 mm.
- v) Vertical distance from Seat Index Point to foot rest was measured as 600 mm which is not within the range of 450 to 520 mm.

Above parameters does not meet the requirements of IS: 12343 - 2021. This should be looked into for necessary corrective action at production level.

**18.4.1.4 Three point linkage:**

- i) The diameter of hitch pin hole of upper hitch point was measured as 25.84 against the requirement of 19.30 to 19.50 mm.
- ii) The diameter of hitch pin hole and width of ball of lower hitch points was measured as 28.98 mm and 44.9 mm against the requirement of 22.40 to 22.65 mm and 34.8 to 35.0 mm, respectively.
- iii) Lateral distance from lower hitch point to centre line of tractor was measured as 435 mm against the requirement of 359 mm.
- iv) Lateral movement of lower hitch points was measured as 85 mm against the minimum requirement of 100 mm.
- v) Lower hitch point height was measured as 205 mm against the requirement of 200 mm maximum.

Above parameter does not meet the requirements of IS: 4468-1997(Part-I). This should be looked into for necessary corrective action at production level.

**18.4.1.5 Operator's work place:**

- i) Vertical retainer has not been provided on inner side of clutch and brake pedals.
- ii) Width of foot step has been measured as 160 mm against the requirement of 200 mm minimum.

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iii) Spark arresting device has not been provided in the exhaust system. Above parameters does not meet the requirement of IS: 12239 (Part-I) 2018. This should be looked into for necessary corrective action at production level.

**18.4.1.6 PTO master shield:**

PTO master shield has not been provided on tractor. This should be looked into for necessary corrective action.

**18.5 Maintenance / Service Problems:**

No noticeable maintenance or service problem was observed during the test.

**18.6 Recommendation with regard to safety on tractor:**

The following requirements, inter alia, may be considered for incorporation on the tractor:

- i) The working clearance around draft control lever and position control lever has been measured as 35 mm against the minimum requirement of 70 mm and does not meet the requirement of IS: 12239 (Part-2) - 1999, (Reaffirmed in January, 2019).
- ii) Fuel shut off knob should remains in stop as per the requirement of position IS: 8133-2021.
- iii) The identification of hand control by colour coding for function controls which involve the engagement of mechanism only, PTO engage lever should meet the requirement of IS: 8133 – 2021.
- iv) The identification of hand control by colour coding for machine ground motion controls, engine speed control, transmission control and parking brake should meet the requirement of IS: 8133 – 2021.
- v) The identification of hand control by single function engine stop control should meet the requirement of IS: 8133 – 2021.
- vi) The hand accelerator lever when moved away from the operator (i.e. forward) should increase the engine speed as per the requirement of IS: 8133-2021.
- vii) The neutral position is should be clearly marked in speed selection pattern provided on speed control levers as per the requirement of IS: 8133-2021.

**18.7 Haulage Test**

During haulage test specific fuel consumption with four wheel trailer was observed as 23.83 to 24.18 cc/km/ton against the declaration of 25 to 30 cc/km/ton. This should be looked into for necessary corrective action.

**18.8 Specifications:**



- i) The brand name of the tractor has been specified as “BHOOMIPUTRA” under clause 4 of Application Format No. 1. Whereas, on labeling plate riveted on the tractor as well as in the printed literature submitted with test sample, brand name is not available. This should be looked into for necessary corrective action.
- ii) The model of tractor has been specified as “575 DI XP Plus” in the specification sheet. Whereas, the same has been specified as “575 XP Plus” vide P. No. 3-1 to 3-3 of Operator’s manual.
- iii) The model of tractor has been specified as “575 DI XP Plus” in the specification sheet. Whereas, the same has been specified as “575 XP Plus” vide cover page and P. No. 1 of Parts Catalogue.
- iv) The oil change period of air cleaner has been specified as “after every 50 hours or earlier if required in dusty condition” in the specification sheet. Whereas, the same has been specified as “at 600 hours” vide page No. 20-1 of Operator’s manual.

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**18.9 Adequacy of Literature supplied with machine:**

- 18.9.1** The following literature was supplied with test sample for reference during the test.
- Service manual for Mahindra 575 DI XP Plus tractor model.
  - Operator's manual for Mahindra XP Plus and SP Plus tractor models.
  - Parts catalogue for Mahindra 575 XP Plus tractor model.
- 18.9.2** The operator manual may be brought out for the guidance of users and service personnel as per IS:8132-1999 incorporating, inter alia, the following:
- Recommended coolant
  - Specifications of matching implements

**TESTING AUTHORITY:**

C.V. CHIMOTE TEST ENGINEER	
A.K. UPADHYAY DIRECTOR (I/C)	

Draft Test Report is compiled by: C. K. Tijare, Agricultural Engineer

**19. APPLICANT'S COMMENTS**

Para no.	Our reference	Comments
19.1	18.8 (i)	As per our system, Brand name "Bhoomiputra" is not part of model name, therefore it is not punched on labelling plate. However, a suitable decal is provided on scuttle of tractor.
19.2	18.8 (ii), 18.8 (iii) & 18.8 (iv)	Observations will be studied and necessary corrective actions for improvement in the manuals will be initiated.
19.3	18.9.2	Observations will be studied and necessary corrective actions for improvement in the manuals will be initiated.

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**ANNEXURE- I**

**BRIEF SPECIFICATION OF MATCHING IMPLEMENTS AS DECLARED BY APPLICANT**

S. No.	Parameters	Disc Plough	Rotavator	Puddler
1	Make	Farmking	Mahindra	Not available
2	Type	Mounted	Mounted	Mounted
3	No. of Discs / Blades	Two	36 in 7 flanges	12 (6 in 2 gangs)
4	Type of Discs / Blades	Plain concave	Hatchet	Notched
5	Size of Discs / Blades, (mm)	655	265 x 85 x 8	460
6	Spacing of Discs /Flanges, (mm)	495	325	165
7	Lower hitch point span, (mm)	760	785	680
8	Mast height, (mm)	480	595	500
9	Overall Dimensions, (mm):			
	Length	1480	970	1190
	Width	1060	1690	1810
	Height	1180	1105	1330
10	Gross Mass, (kg)	200	450	240
11	Working width (cm)	2 x 30	145	--

**ANNEXURE-II**

**BRIEF SPECIFICATION OF MATCHING CAGE WHEEL AS DECLARED BY APPLICANT**

S. No.	Items	Specification
1	Type	Half cage wheel
2	Outer dia. (mm)	1200
3	Width (mm)	360
4	No. & Type of Lugs	14, straight lugs made of MS angle section welded to angle iron frame
5	Size of angle section, (mm)	50 x 50 x 5
6	Length of lug, (mm)	360
7	Spacing of lug, (mm)	260
8	Weight of each cage wheel, (kg)	100

**ANNEXURE-III**

**BRIEF SPECIFICATION OF TRAILER DECLARED AS MATCHING TRAILER BY APPLICANT**

S. No.	Item	Trailer	Trailer
1.	Type of trailer	Semi - Trailer	Semi - Trailer
2.	Number of axles	Single	Double
3.	Un laden Weight of Trailer, kg	1670	2800
4.	Fully laden Weight of Trailer, Tons (Kg)	5000	7000
5.	<b>Overall dimensions of Trailer, (mm):</b>		
	Overall Width	1870	2140
	Overall Length	4180	5785
	Overall Height	2175	2110
	Wheel Base	Not applicable	2835
	Wheel Track	1600	1740(Front) &1765(Rear)
6.	<b>Dimension of fitted Platform, (mm):</b>		
	Length	3040	4225
	Width	1830	2135
	Height from ground	1190	1305
7.	Brakes of Trailer	Not Provided	Not Provided

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**ANNEXURE-IV**

**TRACTOR RUN HOURS DURING TEST**

<b>A.</b>	<b>LABORATORY AND TRACK TESTS:</b>	<b>HOURS</b>
1.	Running-in	60.4
2.	PTO performance test	14.1
3.	Power lift and hydraulic pump performance test	0.8
4.	Drawbar performance test	15.7
5.	Turning ability	0.3
6.	Location of centre of gravity	0.3
7.	Operator's field of vision	--
8.	Brake test	1.8
9.	Air cleaner oil pull over test	2.5
10.	Noise measurement	1.3
11.	Mechanical vibration test	1.0
12.	Nominal speed test	1.1
<b>B.</b>	<b>FIELD TEST:</b>	
1.	Disc ploughing	10.4
2.	Rotavation	10.5
3.	Puddling (including 5.0 hours water proof test)	15.2
<b>C.</b>	<b>HAULAGE TEST:</b>	5.1
<b>D.</b>	Miscellaneous test and other run hours including idle run, transportation, trials and preparation for test	12.5
<b>TOTAL:</b>		<b>153.0</b>