

व्यावसायिक परीक्षण रिपोर्ट (प्रारंभिक)
COMMERCIAL TEST REPORT (INITIAL)

संख्या/No. : T-1723/2254/2023
माह/Month : April, 2023

[ONLINE TESTING]

(यह परीक्षण रिपोर्ट 30/04/2028 तक वैध है / THIS TEST REPORT IS VALID UPTO 30/04/2028)



MAHINDRA, 275 DI TU SP PLUS TRACTOR



भारत सरकार

कृषि एवं किसान कल्याण मंत्रालय
(कृषि एवं किसान कल्याण विभाग)

GOVERNMENT OF INDIA

MINISTRY OF AGRICULTURE AND FARMERS WELFARE
(DEPARTMENT OF AGRICULTURE & FARMERS WELFARE)

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1. SPECIFICATIONS

1.1 Tractor:

Make : Mahindra
 Model : 275 DI TU SP PLUS
 Brand name, if any : SARPANCH (apa)
 Type : Rear Wheel Drive, Standard Agricultural Tractor.
 Month & year of manufacture : 05/22
 Chassis number : MBNTFAEFANNB00387
 Country of origin : India

1.2 Engine:

Manufacturer's address : (i) M/s. Mahindra & Mahindra Limited (Farm Equipment Sector), Akurli Road, Kandivli (E), MUMBAI – 400 101
 (ii) M/s. Mahindra & Mahindra Limited (Farm Equipment Sector), Hingna Road, Hingna MIDC, Nagpur– 440016
 (iii) M/s. Mahindra & Mahindra Limited (Farm Equipment Sector) Agri Business Development Center, Khatima Panipat Highway, Udham Singh Nagar, Vil. Lalpur, Tehsil- Kichha, Rudrapur – 263 153
 (iv) M/s. Mahindra & Mahindra Limited (Farm Equipment Sector), Agri Development Center, Vil-Mehla Tehsil - Dudu Jaipur- Ajmer Road, Jaipur– 303 007
 (v) M/s. Mahindra & Mahindra Limited (Farm Equipment Sector), Near Bidar "T" Junction , Mahindra Nagar, Zaheerabad- 502 220 Medak District, Andhra Pradesh
 (vi) M/s. Mahindra & Mahindra Limited (Farm Equipment Sector) Mahindra Research Valley, Mahindra World City, Plot no. 41/1, Anjur P.O., District Chengalpattu – 603004.

Make : Mahindra
 Model : DH2239NA3A
 Type : Four stroke, naturally aspirated, liquid cooled, direct injection, diesel engine.
 Serial number : NNB7ECE0026
 Country of origin : India

1.2.1 Engine speed (rpm), (Manufacturer's recommended production settings):

- Maximum speed at no load : 2325 to 2525
 - Low idle speed : 750 to 850
 - Speed at maximum torque : 1200 to 1500
Rated speed, (rpm):
 - For PTO use : 2200
 - For drawbar use : 2200

1.3 Cylinder & Cylinder Head:

Number : Three
 Disposition : Vertical, Inline
 Bore/stroke, (mm) : 88.9/120

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17. SUMMARY OF OBSERVATIONS, COMMENTS & RECOMMENDATIONS

17.1 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
17.1.1	PTO Performance:					
a)	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 ≤ 26 kW.	25.35 (D)	24.9	Yes
b)	Power at rated engine speed, (kW)	Non Evaluative	-do-	25.35 (D)	24.9	Yes
c)	Specific fuel consumption corresponding to maximum power, (g/kWh)	Evaluative	$+ 10\%$ max.	261 (D)	256	Yes
d)	Maximum equivalent crankshaft torque, (Nm)	Non Evaluative	$\pm 8\%$	160 (D)	132.9	No
e)	Back-up torque, percent	Evaluative	12 percent	21 (D) 12 (R)	23.1	Yes
f)	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)	109	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.	110 (D)	98	Yes
g)	Engine oil consumption, (g/kWh)	Evaluative	Not exceeding 1% of SFC at max. Power under High ambient conditions.	2.56 Max. (R)	0.37	Yes
h)	Smoke level, m^{-1}	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 Max. (R)	0.53	Yes
17.1.2	Drawbar performance:					
a)	Max. drawbar pull with ballast corresponding to 15 percent wheel slip, (kN)	Non Evaluative	Minimum 70% of static mass of tractor with ballast.	16.9 (D) 17.00 (R) Min.	20.87	Yes

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1	2	3	4	5	6	7
b)	Max. drawbar pull with standard 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.	12.6 (D) 12.70 (R) Min.	14.72	Yes
c)	Maximum drawbar power with standard 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.	20.28 (D) 19.9 (R) Min.	22.8	Yes
d)	Maximum transmission oil temperature, (°C)	Evaluative	The declared value should not exceed the maximum value specified by oil company	120 (D)	84	Yes
17.1.3 Power lift and hydraulic pump performance:						
a)	Maximum lifting capacity throughout the range of lift, (kN):					
1)	At hitch points	Evaluative	Tolerance of ± 10%	14.60 (D)	13.41	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) 5.86 (R) Min.	9.47	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 Minutes, (mm)	Non Evaluative	The observed value should not exceed 50 mm	50 (D) Max.	60	No
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)	7.21	Yes
2)	Hot brake	Evaluative	10	10 (R)	7.35	Yes
b)	Maximum force exerted on the brake pedal to achieve a deceleration of 2.5 m/s ² , (N)	Evaluative	600	600 (R) Min.	212 to 241	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)	82	Yes
b)	Maximum noise at operator's ear level, dB(A)	Evaluative	As per CMVR	96 (R)	92	Yes
17.1.6 Amplitude of mechanical vibrations at:						
1)	Left foot rest	Non Evaluative	100 microns (max.)	100 (R)	85	Yes
2)	Right foot rest	Evaluative			97	Yes
3)	Seat (with driver seated)				95	Yes
4)	Steering wheel				103	No

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1	2	3	4	5	6	7	
17.1.7	Air cleaner:						
	Maximum air cleaner oil pull over, (%)	Evaluative	0.25 (Max.)	Dry type air cleaner fitted	Not applicable	--	
18.1.8	Haulage requirements:						
a)	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)	Distance travelled / liter of fuel consumption, (km/l):						
	Two wheel	Non Evaluative	As specified by the manufacturer	5.0 to 6.0 (D)	5.59 to 5.67	Yes	
	Four wheel	Non Evaluative		5.0 to 6.0 (D)	6.00 to 6.11	No	
c)	Fuel consumption, (ml/km/tonne):						
	Two wheel	Non Evaluative	As specified by the manufacturer	30 to 35 (D)	34.33 to 34.82	Yes	
	Four wheel	Non Evaluative		25 to 30 (D)	26.94 to 27.63	Yes	
17.1.9	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 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-					
17.1.10	Safety features:						
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)	Does not meet the requirement	No		

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1	2		3	4	5	6	7	
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)		Does not meet the requirement	No	
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		11.81 (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 (Max. speed in reverse gear is 11.81 kmph)	Not applicable	
17.1.11	Labelling of tractors (Provision of labelling plate):							
	1)	Make	Evaluative	Should conform to the requirements of CMVR along with maximum PTO Power in kW and year of manufacture in numerical form. <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>MM</td><td>YY</td></tr></table> Digit 01 – 12 in box No.1for MM will represent the months and next two digits in box No.2 for YY will represent the year of Manufacturing.	MM	YY	Mahindra	Yes
MM	YY							
	2)	Model	Evaluative		275 DI TU SP PLUS	Yes		
	3)	Month & Year of manufacture	Evaluative		05/22	Yes		
	4)	Engine number	Evaluative		NNB7EC E0029	Yes		
	5)	Chassis number	Evaluative		MBNTFA EFANNB 00387	Yes		
	6)	Maximum PTO power, (kW)	Evaluative	25.35	Yes			
17.1.12	Discard limit for:							
(a)	Cylinder bore diameter, (mm)		Evaluative	To be specified by the manufacturer and supported by the printed literature	89.13	88.900 to 88.920	Yes	
(b)	Clearance between piston & cylinder liner at skirt, (mm)		Non Evaluative		0.30	0.099 to 0.127	Yes	
(c)	Piston diameter at skirt, (mm)		Non Evaluative		88.15	88.813 to 88.817	Yes	

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1	2	3	4	5	6	7	
d)	Ring end gap (mm):						
	-	Top comp. ring.	Evaluative	--do--	2.5	0.35	Yes
	-	2 nd comp. ring.			2.5	0.60	Yes
	-	Oil ring.			2.0	0.35 to 0.40	Yes
(e)	Ring groove clearance (mm):						
	-	Top comp. ring.	Evaluative	--do--	0.30	Tapered	--
	-	2 nd comp. ring.			0.30	0.063 to 0.065	Yes
	-	Oil ring.			0.20	0.055 to 0.058	Yes
(f)	Clearance of main bearings (mm):						
	-	Diametrical clearance	Evaluative	--do--	0.20	0.073 to 0.082	Yes
	-	Crankshaft end float			Evaluative	0.60	0.10
(g)	Clearance of big end bearings, (mm):						
	-	Diametrical	Evaluative	-do-	0.20	0.065 to 0.070	Yes
	-	Axial	Evaluative	-do-	0.75	0.20 to 0.25	Yes
(h)	Clearance between king pin and bush, (mm)		Non Evaluative	-do-	0.30	0.095 to 0.101	Yes
(i)	Clearance between centre pin and bush, (mm)		Non Evaluative	-do-	0.30	0.074 to 0.079	Yes
17.1.13	Literature (Submission to test agency)						
(a)	Operator manual		Evaluative	Provided / Not Provided	Provided	Provided	Yes
(b)	Parts Catalogue		Evaluative	Provided / Not Provided	Provided	Provided	Yes
(c)	Workshop/ Service manual		Evaluative	Provided / Not Provided	Provided	Provided	Yes
17.1.14	Fitment of Roll Over Protective Structures (ROPS):						
	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
17.1.15	Standard Accessories		Evaluative	Trailer hitch, front tow hook, linkage drawbar should be provided with tractor		Provided	Yes
17.1.16	Accessories (optional)		Non Evaluative	Ballast weight, if fitted, should meet the requirement of CMVR		Not fitted	Not applicable

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17.2 CATEGORY OF BREAKDOWNS / DEFECTS (As per clause 5.0 of IS:12207-2019):					
S. No.	Category of break-downs	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	One (Mj8)	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.	One	Yes

17.3 Conformity with following IS:

- i) Guidelines 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 [IS12343–2021] : **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) Guide lines for location and operation of operator controls on agricultural tractors and machinery [IS: 8133-2021] : **Does not conform**
- ix) Tractors and machinery for agriculture and forestry, powered lawn and garden equipment - Symbols for operator controls and other displays Part2 Symbols for agricultural tractors and machinery [IS: 6283(Part-1)- 2006 and IS: 6283 (Part-2)-2007(Reaffirmed in January,2019)] : **Does not conform**
- x) Agricultural Tractors and Machinery-Lighting device for travel on public roads (IS:14683-1999) (Reaffirmed in January,2019)] : Conforms

17.4 Salient Observations:

17.4.1 Laboratory tests:

17.4.1.1 PTO Performance Test

Maximum equivalent crankshaft torque was observed as 132.9 Nm against the declaration of 160 Nm, which does not meet the non-evaluative requirement of IS: 12207-2019 with regard to tolerance. This should be looked into for corrective action.

17.4.1.2 Hydraulic performance test:

Cumulative drop in the height of the point of application of the force after each 5 minutes interval for a total duration of 30 Minutes during lift load maintenance test was recorded as 60 mm, against the maximum allowable drop of 50 mm and does not meet the non-evaluative requirements of IS: 12207 - 2019. This should be looked into for necessary corrective action.

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17.4.1.3 Mechanical Vibration

The amplitude of mechanical vibration on various assemblies marked as (*) in Chapter-9 of this test report are on higher side, especially at steering control wheel and does not meet the non-evaluative requirements of IS: 12207 - 2019. This calls for dampening down of vibrations to improve operational comfort and service life of components.

17.4.1.4 Operator's seat:

- ii) Provision for adjustment of driver's mass has been specified as 50 to 120 kg against the requirement of 40 to 100 kg.
- ii) Vertical distance from SIP to centre of steering control wheel has been measured as 195 mm against the requirement of 265 to 385 mm.
- v) Vertical distance of SIP from foot rest has been measured as 540 mm against the requirement of 450 to 520 mm.

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

17.4.1.5 Operator's work place:

- i) Vertical retainers for inner side of clutch and brake pedals are not provided.
- ii) Width of foot step has been measured as 162 mm against the minimum requirement of 200 mm.
- 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.

17.4.1.6 PTO master shield:

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

17.5 Maintenance / Service Problems:

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

17.6 Recommendation with regard to safety on tractor:

- i) Identification of hand controls by colour codes has not been provided as per the requirement as laid down in Table – 5 of IS: 8133-2021.
- ii) The hand accelerator lever, when moved away from the operator (i.e. forward) decreases the engine speed, which does not meet the requirement as laid down in Table – 1 of IS: 8133-2021.
- iii) The neutral position has not been marked for gear selection on both the main gear shifting lever and range selection lever as per the requirement as laid down in Table-1 of IS: 8133-2021.
- v) The working clearance between draft control lever and mudguard has been measured as 55 mm against the minimum requirement of 70 mm as laid down in IS: 12239 (Part-2) – 1999 (Re-affirmed in January, 2019).

Above parameters should be looked into for necessary corrective action.

17.7 Haulage Test

Distance travelled per litre fuel consumption with four wheel trailers was observed as 6.00 to 6.11 km against the declaration of 5.0 to 6.0 km. This should be looked into.

17.8 Three point linkage:

- i) Diameter of hitch pin hole & width of ball of upper hitch point was measured as 25.78 mm & 50.90 mm, against the requirement of 19.30 to 19.50 mm & 44.0 mm (Max) for Cat. I as per IS: 4468-1997 (Part-1).
- ii) Diameter of hitch pin hole & width of ball of lower hitch points was measured as 25.90 mm & 44.9 mm, against the requirement of 22.40 to 22.65.50 mm & 34.8 to 35.0 mm, respectively for Cat. I as per IS: 4468-1997 (Part-1).
- iii) Lateral distance from lower hitch point to centre line of tractor was measured as 435 mm against the requirement of 359 mm for Cat. I as per IS: 4468-1997 (Part-1).
- iv) Lateral movement of lower hitch points was measured as 83 mm against the requirement of 100 mm (Min.) for Cat. I as per IS: 4468-1997 (Part-1).

Above parameters should be looked into for necessary corrective action.

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17.9 Specifications:

Discrepancies in the specification between the Specification sheet and Operator's manual :

S. No.	Description	As per Specification Sheet	As per Operator's manual
a)	Tractor Model	275 DI TU SP PLUS	275 TU SP Plus (Refer P. No. 3-4 to 3-6)
b)	Coolant as recommended	M/s BIL MT-92	Mahindra M-Star Coolz or coolant conforming to JIS K-2234 (P. No. 19-1)
c)	Coolant water ratio	20:80	In 1 litre of mineral water, add 50 to 60 ml concentrated antirust additive (Refer P. No. 12-6)
d)	Transmission oil	TRACT ELF MM/IOCL	M-Star genuine OIB oil or Servo MTRAC 30 (P. No. 19-1)
e)	Schedule for transmission oil change	After every 1200 hours of operation	First change at 1300 hours and then after every 1200 hours (Refer P. No. 20-6)

17.10 Components/ Assembly Inspection :

Measured thickness of brake disc after test was measured as 4.13 to 4.16 mm for LHS brake and 4.14. to 4.16 mm for RHS brake, against the discard limit of 4.15 mm. This should be looked into for necessary corrective action.

17.11 Adjustments/Defects/Breakdowns and Repairs:

During the running-in of transmission system of tractor, it was observed that the tractor was not moving forward in any of the gear, even at full throttle of engine. Thereupon applicant vide letter No. FD/BVH/ICT/275TUSPPLUS/22-23/06, dated 28.07.2022 requested to replace 'Plate clutch assembly' (part No. 006510225B91, quantity 1 No.) which was allowed and same was replaced with new one of same specifications. This defect is categorized as **Major breakdown/defect (Mj- 8)** as per IS: 12207-2019. This should be looked into for necessary corrective action for the improvement in quality of parts/components.

17.12 Adequacy of Literature supplied with machine:



17.12.1 The following literatures were supplied with the test tractor for reference during the test: -

- a) Operators Manual for "Mahindra XP Plus & SP Plus" tractor models.
- b) Parts catalogue for "Mahindra 275 DI TU SP PLUS" tractor model Part-I & Part-II.
- c) Service manual for "Mahindra 275 DI TU SP PLUS" tractor model.

17.12.2 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:

- i) Safe hitch height while using four wheel trailer.
- ii) Recommended ballast masses for different operations.

TESTING AUTHORITY:

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

Draft test report compiled by: **C. K. Tijare**, Agricultural Engineer

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18. APPLICANT'S COMMENTS

Para no.	Our reference	Comments
18.1	17.9	Differences observed in between submitted specification and operator's manual, corrective actions will be taken to make them common throughout all literature and specifications.
18.2	17.11	The said part will be studied after receipt from the institute and necessary corrective action will be initiated as required.
18.3	17.12.2	Parameters in product literature will be studied and necessary action 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	Farmking	Not available
2	Type	Mounted	Mounted	Mounted
3	No. of Discs / Blades	Two	30 in 5 flanges	12 (6 in 2 gangs)
4	Type of Discs / Blades	Plain concave	Hatchet	Notched
5	Size of Discs / Blades, (mm)	655	220 x 75 x 7	460
6	Spacing of Discs /Flanges, (mm)	495	240	165
7	Lower hitch point span, (mm)	760	800	680
8	Mast height, (mm)	480	640	500
9	Overall Dimensions, (mm):			
	Length	1480	970	1190
	Width	1060	1510	1810
	Height	1180	1100	1330
10	Gross Mass, (kg)	200	200	240
11	Working width (cm)	610	130	--

ANNEXURE-II

BRIEF SPECIFICATION OF MATCHING CAGE WHEELS 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)	Not specified	Not specified
5.	Overall dimensions of Trailer, (mm):		
	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.	Dimension of fitted Platform, (mm):		
	Length	3040	4225
	Width	1830	2135
	Height from ground	1190	1305
7.	Brakes of Trailer	Not Provided	Not Provided

T-1723/2254/2023	MAHINDRA, 275 DI TU SP PLUS TRACTOR - COMMERCIAL (INITIAL)
	THIS TEST REPORT IS VALID UPTO: 30/04/2028

ANNEXURE-IV

TRACTOR RUN HOURS DURING TEST

A.	LABORATORY AND TRACK TESTS:	HOURS
1.	Running-in	62.4
2.	PTO performance test	11.4
3.	Power lift and hydraulic pump performance test	0.8
4.	Drawbar performance test	14.7
5.	Turning ability& Location of centre of gravity	0.3
6.	Operator's field of vision	--
7.	Brake test	2.0
8.	Noise measurement	1.5
9.	Mechanical vibration test	0.8
10.	Nominal speed test	1.0
B.	FIELD TEST:	
1.	Disc ploughing	10.9
2.	Rotavation	10.8
3.	Puddling (including 5.0 hours water proof test)	15.2
C.	HAULAGE TEST:	5.2
D.	Miscellaneous test and other run hours including idle run, transportation, trials and preparation for test	14.2
TOTAL:		151.2