व्यावसायिक परीक्षण रिपोर्ट (प्रारंभिक) संख्या/No. : T-1714/2245/2023

COMMERCIAL TEST REPORT (INITIAL) माह/Month : March, 2023

Application Reference No. 28/2021-22/120

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



TAFE, MF 245 DI V1 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)

केन्द्रीय कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान

ट्रैक्टर नगर, बुदनी (म.प्र.) 466 445

CENTRAL FARM MACHINERY TRAINING & TESTING INSTITUTE TRACTOR NAGAR, BUDNI (M.P.) 466 445

(An ISO 9001: 2015 Certified Institute)

E-mail: fmti-mp@nic.in Web site: http://www.fmttibudni.gov.in Telephone: 07564-299003

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TAFE, MF 245 DI V1 TRACTOR - COMMERCIAL (INITIAL) THIS TEST REPORT IS VALID UPTO: 31/03/2028

Manufacturer

: M/s Tractors and Farm Equipment

Limited,

Post Box No. 3302, Old – 35 (New 77) Mahatma Gandhi Road, Nungambakkam,

Chennai - 600 034

Month: March Test Report No.: T-1714/2245/2023 Year: 2023



GOVERNMENT OF INDIA CENTRAL FARM MACHINERY TRAINING & TESTING INSTITUTE TRACTOR NAGAR, BUDNI (MADHYA PRADESH) 466445, INDIA

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TAFE, MF 245 DI V1 TRACTOR - COMMERCIAL (INITIAL)

THIS TEST REPORT IS VALID UPTO: 31/03/2028

Manufacturer

: M/s Tractors and Farm Equipment

Limited,

Post Box No. 3302, Old – 35 (New 77), Mahatma Gandhi Road, Nungambakkam, Chennai – 600 034

Location of other manufacturing plants (apa)

: i) M/s Tractors and Farm Equipment

Kalladipatti Plant, 10/205, Kalladipatti (PO), Pincode – 624 201, Dindigul

Dist. (Tamil Nadu)

ii) M/s Tractors and Farm Equipment,

Doddapallapur Plant Plot No. – 1, KIADB Industrial Area, Doddapallapur,

Bangaluru- 561203 (KA).

Test requested by (applicant) : The manufacturer

Selected for test by : The testing authority Place of running-in : At Testing Institute

Duration of said running-in, (h):

- Engine : 12 - Transmission : 24

Method of Selection : The test sample was selected randomly out

of five tractors from the production line by the representative of testing authority

through online mode.

Details of tractors made available for random selection					
S. No. Chassis serial Number					
1	MEA44CD1EN1361756				
2	MEA44CD1EN1361757				
3	MEA44CD1EN1361758				
4	MEA44CD1EN1361760				
5	MEA44CD1EN1361761				

1. SPECIFICATIONS

1.1 Tractor:

Make : TAFE

Model : MF 245 DI V1

Type : Rear Wheel Drive, Standard Agricultural

Tractor.

Month & year of manufacture : 05/22

Chassis number : MEA44CD1EN1361758

Country of origin : India

1.2 Engine:

Manufacturer's address : M/s. Simpson & Co. Ltd. channai-02, SP

plant, ASP & Kumbakonam Plant. Simpson & Co. Ltd. Huzur Garden,

Sembiam, Chennai-11

Make : Simpson & Co. Ltd.
Model : T III A SJ327 – F3

Type : Four stroke, naturally aspirated, liquid cooled, direct injection, diesel engine.

Serial number : SJ327B35778

Country of origin : India

TAFE, MF 245 DI V1 TRACTOR - COMMERCIAL (INITIAL) THIS TEST REPORT IS VALID UPTO: 31/03/2028

18. SUMMARY OF OBSERVATIONS, COMMENTS & RECOMMENDATIONS

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:

SI. No.		aracteristic	Category (Evaluative / Non Evaluative)	Requirements as per IS: 12207-2019	Values declared by the applicant/ (D) Require- ment (R)		Whether meets the require- ments (Yes/No)
1		2	3	4	5	6	7
18.1.1		Performance	9:		1	1	
a)	und (kW	,	Evaluative	Declared value to be achieved with a tolerance of: ±5% for PTO power and or engine power >26 kW. ±10% for PTO power and or engine ≤ 26 kW.	32.8 (D)	32.0	Yes
b)	engi (kW)	Non Evaluative	-do-	32.8 (D)	31.9	Yes
c)	corr to pow	sumption esponding maximum er, (g/kWh)	Evaluative	+ 10% max.	265 (D)	238	Yes
d)	equi crar	rimum ivalent ikshaft ue, (Nm)	Non Evaluative	± 8%	158 (D)	161.2	Yes
е)	Bac	k-up torque, cent	Evaluative	12 percent	12 (D) 12 (R) Minimum	19.2	Yes
f)	Max	imum operatin	g temperature,		T	1	
	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.	132(D)	106	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)	91	Yes
g)		ne oil sumption, Wh)	Evaluative	Not exceeding 1% of SFC at max. Power under High ambient conditions.	2.41 (R) Maximum	0.48	Yes
h)	Smo	oke 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 (R) Maximum		Yes

TAFE, MF 245 DI V1 TRACTOR - COMMERCIAL (INITIAL) THIS TEST REPORT IS VALID UPTO: 31/03/2028

1		2	3	4		5	6	7
18.1.2	Dra	wbar perform	ance:					
a)	with corre	drawbar pull ballasted esponding to bercent wheel (kN)	Non Evaluative	Minimum 70% of of tractor with balls		17.6 (D) 17.09 (R) Minimum	18.72	Yes
b)	with balla corre		Evaluative	Minimum 70% of of tractor withou with standard bal case may be.	t ballast or	13.5 (D) 12.63 (R) Minimum	14.62	Yes
c)	drav with	timum wbar power standard ast, (kW).	Evaluative	Minimum 80 % of F referred in SI No. performance in cashaving total static material Minimum 75 % of F referred in SI No. performance in case tractors having ≤1500 mass of tractor Minimum the engine power as No. i) a) of engine pase of tractors which PTO shaft.	i) a) of PTO se of tractors ass > 1500 kg PTO power as i) a) of PTO of light weight 0 kg total static mum 75 % of referred in Sl performance in	26.5 (D) 25.6 (R) Minimum	27.9	Yes
d)	tran tem (°C)	imum smission oil perature,	Evaluative	The declared valuexceed the max specified by oil com	imum value	132 (D)	88	Yes
18.1.3				performance:				
a)	1)	At hitch points	Evaluative	hout the range of I Tolerance of	, ,	15.0 (D)	15.25	Yes
	2)	With the standard frame	Evaluative	The lift capacity she 24 kg/PTO kW be 21.5 kg/engine the tractor is not properly properly between the tractor is not properly shaft.	and it should where	11.5 (D) 7.46 (R) Minimum	12.45	Yes
b)	in the app the each interest tota 30 (mm	I duration of Minutes,	Non Evaluative	The observed va not exceed 50 mr		50 (D) Maximum	30	Yes
18.1.4		ke performan				20 M 1	1 1	1 20
а)		ballast, (m): Cold brake Hot brake	Evaluative Evaluative	a force, equal to or	r less than 60	10 (R)	6.54 6.60	Yes Yes
b)	Max the	cimum force brake pedal to eleration of 2.5	exerted on achieve a	Evaluative	600	600 (R) Maximum	338 to 362	Yes
c)	Whe effe foot	ether parking ctive at a force pedal (s) or d lever	brake is of 600 N at	Evaluative	Yes / No	Yes	Yes	Yes

TAFE, MF 245 DI V1 TRACTOR - COMMERCIAL (INITIAL) THIS TEST REPORT IS VALID UPTO: 31/03/2028

1	2	3	4	5	6	7
18.1.5	Noise measurement:		1		<u>. </u>	
a)	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)	85	Yes
b)	Maximum noise at operator's ear level, dB(A)	Evaluative	96 (as per CMVR)	96 (R)	94	Yes
18.1.6	Amplitude of mechanical	vibrations at:				
	Left foot rest				138	No
	Right foot rest	Non	100 microns	100	142	No
	Seat (with driver seated)	Evaluative	(max.)	(R)	137	No
40.4.	4) Steering wheel				212	No
18.1.7	Air cleaner:	Fralmatina			0.05	
	Maximum air cleaner oil pull over, (%)	Evaluative	0.25 (Max.)	0.25 (Max.)	0.05 to 0.14	Yes
18.1.8	Haulage requirements:			•		
a)	Gross mass of the trailers, (tonne):				
	Two wheel	Non		5.0 (D)	5.0	Yes
		Evaluative	As specified by	0.0 (D)	0.0	100
	Four wheel	Non	the manufacturer	5.0 (D)	5.0	Yes
b)	Distance travelled / liter of	Evaluative	tion (km/l)·	<u> </u>		
",	Two wheel		, (1.11/1).	5.8	5.99	
		Non		to 6.5	to	Yes
		Evaluative	As specified by	(D)	6.36	
	Four wheel	Non Evaluative	the manufacturer	5.8 to 6.5 (D)	6.46	Yes
c)	Fuel consumption, (ml/km	/tonne):	1			
	Two wheel	Non		25 to	31.43	
		Evaluative		30	to	No
	E I.a.i		As specified by	(D)	33.37	
	Four wheel	Non	the manufacturer	25 to 30	30.95	No
		Evaluative		(D)	30.33	140
18.1.9	Wetland cultivation:	<u> </u>	1	, <u>, , , , , , , , , , , , , , , , , , </u>	1	
	Sealing for the following	Evaluative	The identified assemblies should			
	assemblies:	_	essentially meet the	There		
	Clutch assembly	-do-	requirement of IS: 11082. No water	should	No	
	Brake housings Front ovice hubs	-do-	ingress in the	be no	ingress	
	3) Front axle hubs4) Engine Oil	-do-	given in column-2. Íf	ingress	of water and/or	Yes
	5) Transmission Oil	-do-	tractor does not meet the requirements of	of water and/or	mud	
	-, Transmission Oil		wetland cultivation, it	mud (R)	was	
			may be recommended for dry land operation		observe- d	
18.1.10	Safety features		only.			
a)	Guards against moving		Belt drives,	Meet	s the	
,	and hot parts	Evaluative	pulleys, silencer, hydraulic pipes (As per IS 12239 (Part2)	Meets the requirement		Yes
b)	Lighting arrangement	Evaluative	As per CMVR	requir	s the ement	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 require		No

TAFE, MF 245 DI V1 TRACTOR - COMMERCIAL (INITIAL) THIS TEST REPORT IS VALID UPTO: 31/03/2028

1		2	3	4	5 6	7
d)		hnical requirements for D shaft	Evaluative	Should meet the requirements of IS: 4931 (As amended from time to time)	Meets the requirement	Yes
е)	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)		ecifications of linkage wbar	Evaluative	Should meet the requirements of IS: 12953 (As amended from time to time)	Meets the requirement	Yes
g)		nging drawbar erever fitted)	Evaluative	Should meet the requirement of IS: 12362 (Part 3) (As amended from time to time)	Not provided	Not appli- cable
h)	1)	Maximum travelling speed at rated engine speed in reverse gears, Kmph	Evaluative	Should not exceed 20 Kmph	14.09 (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 appli- cable
18.1.11	Lab	elling of tractors (Provi	sion of labellin			
	1)	Make	Evaluative	Should conform to	TAFE	Yes
	3)	Model Month & Year of manufacture	Evaluative Evaluative	the requirements of CMVR along with maximum PTO Power in kW and	MF 245 DI V1 05/22	Yes Yes
	4)	Engine number	Evaluative	year of	SJ327B35778	Yes
	5)	Chassis number	Evaluative	manufacture in numerical form. MM YY	MEA44CD1EN13 61758	Yes
	6)	Maximum PTO power, (kW)	Evaluative	Digit 01 – 12 in box No.1 for MM will	32.8	Yes
	7)	Specific fuel consumption (g/kWh)	Evaluative	represent the months and next two digits in box No.2 for YY will represent the year of Manufacturing.	265	Yes

T-1714/2245/2023 TAFE, MF 245 DI V1 TRACTOR - COMMERCIAL (INITIAL)
THIS TEST REPORT IS VALID UPTO: 31/03/2028

_				-	_	7
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Discount limit for	3	4	5	6	7
18.1.12 (a)	Discard limit for:	Evaluative	To be	05.00	05 000 45	
(a)	Cylinder bore diameter, (mm)	Evaluative	To be specified by	95.20	95.000 to 95.012	Yes
(b)	Clearance		the		93.012	
(6)	between piston 8	Non	manufacturer	0.25	0.115 to	
	cylinder liner at		and supported	0.25	0.113 to	Yes
	skirt, (mm)	Lvaluative	by the printed		0.117	
(c)	Piston diameter a	. Non	literature	94.888 to	94.892 to	
(0)	skirt, (mm)	Evaluative	literature	95.274	94.895	Yes
d)	Ring end gap (mm			30.Z1 +	04.000	
	- Top comp. ring.	. ,,.	To be specified		0.40 to	Yes
	Top comp. mig.		by the	2.5	0.45	100
	- 2 nd comp. ring.	1	manufacturer	2.5	0.55 to	Yes
	2 55	Evaluative	and supported	2.0	0.60	
	- Oil ring.	-	by the printed	2.0	0.30 to	Yes
	Jg.		literature	2.0	0.40	
(e)	Ring groove clear	ance (mm):	1	1		ı
	- Top comp. ring.		To be specified	0.30	-Tappered-	
	- 2 nd comp. ring.	1	by the	0.30	0.080 to	Yes
		Evaluative	manufacturer	2.20	0.083	
	- Oil ring.		and supported	0.30	0.032 to	Yes
			by the printed literature		0.033	
(f)	Clearance of main	hearings (mm):	illerature			
(.,	- Diametrical		To be specified		0.056 to	
	clearance	Evaluative	by the	0.75	0.064	Yes
	- Crankshaft end		manufacturer		0.004	
	float	Evaluative	and supported	0.75	0.20	Yes
	l liout	Lvaluative	by the printed	0.75	0.20	163
(g)	Clearance of big en	d bearings (mm):	literature		<u> </u>	
(9)	- Diametrical	Evaluative	-do-	0.75	0.070 to	Yes
	- Diametricai	Lvaluative	-40-	0.73		163
1					0.076	
	- Axial	Evaluative	-do-	0.75	0.076	Yes
(h)	- Axial	Evaluative	-do-	0.75	0.076 0.35	Yes
(h)	Clearance	Non			0.35	
(h)	Clearance between king pin		-do-			Yes Yes
	Clearance between king pin and bush, (mm)	Non Evaluative			0.35	
(h)	Clearance between king pin and bush, (mm) Clearance	Non Evaluative Non	-do-	0.35	0.35 0.06 to 0.10	Yes
	Clearance between king pin and bush, (mm) Clearance between centre pin	Non Evaluative		0.35	0.35	
	Clearance between king pin and bush, (mm) Clearance	Non Evaluative Non Evaluative	-do-	0.35	0.35 0.06 to 0.10	Yes
(i)	Clearance between king pin and bush, (mm) Clearance between centre pir and bush, (mm)	Non Evaluative Non Evaluative	-do- -do- ncy) Provided /	0.35 1.25	0.35 0.06 to 0.10 0.11 to 0.16	Yes
(i) 18.1.13 (a)	Clearance between king pin and bush, (mm) Clearance between centre pin and bush, (mm) Literature (Submis Operator manual	Non Evaluative Non Evaluative ssion to test ager Evaluative	-dodo- ncy) Provided / Not Provided	0.35	0.35 0.06 to 0.10	Yes
(i) 18.1.13	Clearance between king pin and bush, (mm) Clearance between centre pin and bush, (mm) Literature (Submis	Non Evaluative Non Evaluative ssion to test ager	-dodo- Provided / Not Provided / Provided /	0.35 1.25 Provided	0.35 0.06 to 0.10 0.11 to 0.16 Provided	Yes Yes
(i) 18.1.13 (a) (b)	Clearance between king pin and bush, (mm) Clearance between centre pin and bush, (mm) Literature (Submis Operator manual Parts Catalogue	Non Evaluative Non Evaluative ssion to test ager Evaluative Evaluative	-dodo- Provided / Not Provided / Provided / Not Provided	0.35 1.25	0.35 0.06 to 0.10 0.11 to 0.16	Yes
(i) 18.1.13 (a)	Clearance between king pin and bush, (mm) Clearance between centre pin and bush, (mm) Literature (Submis Operator manual Parts Catalogue Workshop/	Non Evaluative Non Evaluative ssion to test ager Evaluative	-dodorcy) Provided / Not Provided Provided / Not Provided Provided /	0.35 1.25 Provided Provided	0.35 0.06 to 0.10 0.11 to 0.16 Provided Provided	Yes Yes Yes
(i) 18.1.13 (a) (b) (c)	Clearance between king pin and bush, (mm) Clearance between centre pin and bush, (mm) Literature (Submis Operator manual Parts Catalogue Workshop/ Service manual	Non Evaluative Non Evaluative ssion to test ager Evaluative Evaluative Evaluative	-dodocy) Provided / Not Provided Provided / Not Provided Provided / Not Provided / Not Provided	0.35 1.25 Provided	0.35 0.06 to 0.10 0.11 to 0.16 Provided	Yes Yes
(i) 18.1.13 (a) (b)	Clearance between king pin and bush, (mm) Clearance between centre pin and bush, (mm) Literature (Submis Operator manual Parts Catalogue Workshop/ Service manual Fitment of Roll Ov	Non Evaluative Non Evaluative ssion to test ager Evaluative Evaluative Evaluative Evaluative	-dodorovided / Not Provided / Not Provided / Not Provided / Provided / Not Provided / Not Provided / Not Provided	0.35 1.25 Provided Provided Provided	0.35 0.06 to 0.10 0.11 to 0.16 Provided Provided	Yes Yes Yes
(i) 18.1.13 (a) (b) (c)	Clearance between king pin and bush, (mm) Clearance between centre pin and bush, (mm) Literature (Submis Operator manual Parts Catalogue Workshop/ Service manual Fitment of Roll Over	Non Evaluative Non Evaluative ssion to test ager Evaluative Evaluative Evaluative er Protective Strue Evaluative	-dodoroy) Provided / Not Provided / Not Provided / Provided / Not Provided / ROPS should	0.35 1.25 Provided Provided Provided meet the	0.35 0.06 to 0.10 0.11 to 0.16 Provided Provided	Yes Yes Yes Yes
(i) 18.1.13 (a) (b) (c)	Clearance between king pin and bush, (mm) Clearance between centre pin and bush, (mm) Literature (Submis Operator manual Parts Catalogue Workshop/ Service manual Fitment of Roll Over For tractor having more than 1150	Non Evaluative Non Evaluative Ssion to test ager Evaluative Evaluative Evaluative Evaluative Evaluative Evaluative	-dodorecy) Provided / Not Provided Provided / Not Provided Provided / Not Provided Provided / Not Provided ROPS): ROPS should requirement of	0.35 1.25 Provided Provided Provided meet the S:1182 or	0.35 0.06 to 0.10 0.11 to 0.16 Provided Provided Provided	Yes Yes Yes Yes Not
(i) 18.1.13 (a) (b) (c)	Clearance between king pin and bush, (mm) Clearance between centre pin and bush, (mm) Literature (Submis Operator manual Parts Catalogue Workshop/ Service manual Fitment of Roll Over the pin of t	Non Evaluative Non Evaluative Ssion to test ager Evaluative Evaluative Evaluative Evaluative Evaluative Evaluative	-dododo- Provided / Not Provided / Not Provided / Provided / Not Provided / ROPS should requirement of I OECD code or	0.35 1.25 Provided Provided Provided meet the S:1182 or equivalent	0.35 0.06 to 0.10 0.11 to 0.16 Provided Provided	Yes Yes Yes Yes
(i) 18.1.13 (a) (b) (c) 18.1.14	Clearance between king pin and bush, (mm) Clearance between centre pin and bush, (mm) Literature (Submis Operator manual Parts Catalogue Workshop/ Service manual Fitment of Roll Over the pin of the	Non Evaluative Non Evaluative ssion to test ager Evaluative Evaluative Evaluative Evaluative Evaluative Evaluative	-dodorcy) Provided / Not Provided Provided / Not Provided Provided / Not Provided Provided / Not Provided uctures (ROPS): ROPS should requirement of I OECD code or International Sta	0.35 1.25 Provided Provided Provided Provided meet the S:1182 or equivalent andard	0.35 0.06 to 0.10 0.11 to 0.16 Provided Provided Provided	Yes Yes Yes Yes Not applic-
(i) 18.1.13 (a) (b) (c)	Clearance between king pin and bush, (mm) Clearance between centre pin and bush, (mm) Literature (Submis Operator manual Parts Catalogue Workshop/ Service manual Fitment of Roll Ov For tractor having more than 1150 mm rear track width Standard	Non Evaluative Non Evaluative Ssion to test ager Evaluative Evaluative Evaluative Evaluative Evaluative Evaluative	-do- -do- -do- Provided / Not Provided Provided / Not Provided Provided / Not Provided Provided / Not Provided Ctures (ROPS): ROPS should requirement of I OECD code or International Stat Trailer hitch,	0.35 1.25 Provided Provided Provided Provided meet the S:1182 or equivalent andard front tow	0.35 0.06 to 0.10 0.11 to 0.16 Provided Provided Provided Not fitted	Yes Yes Yes Yes Not applicable
(i) 18.1.13 (a) (b) (c) 18.1.14	Clearance between king pin and bush, (mm) Clearance between centre pin and bush, (mm) Literature (Submis Operator manual Parts Catalogue Workshop/ Service manual Fitment of Roll Over the pin of the	Non Evaluative Non Evaluative ssion to test ager Evaluative Evaluative Evaluative Evaluative Evaluative Evaluative	-do- -do- -do- Provided / Not Provided Provided / Not Provided Provided / Not Provided Provided / Not Provided Ctures (ROPS): ROPS should requirement of I OECD code or International Stat Trailer hitch, hook, linkage	0.35 1.25 Provided Provided Provided Provided meet the S:1182 or equivalent andard front tow drawbar	0.35 0.06 to 0.10 0.11 to 0.16 Provided Provided Provided	Yes Yes Yes Yes Not applic-
(i) 18.1.13 (a) (b) (c) 18.1.14	Clearance between king pin and bush, (mm) Clearance between centre pin and bush, (mm) Literature (Submis Operator manual Parts Catalogue Workshop/ Service manual Fitment of Roll Ov For tractor having more than 1150 mm rear track width Standard	Non Evaluative Non Evaluative ssion to test ager Evaluative Evaluative Evaluative Evaluative Evaluative Evaluative	-do- -do- Provided / Not Provided Provided / Not Provided Provided / Not Provided Provided / Not Provided uctures (ROPS): ROPS should requirement of I OECD code or International Stat Trailer hitch, hook, linkage should be provided	0.35 1.25 Provided Provided Provided Provided meet the S:1182 or equivalent andard front tow drawbar	0.35 0.06 to 0.10 0.11 to 0.16 Provided Provided Provided Not fitted	Yes Yes Yes Yes Not applicable
(i) 18.1.13 (a) (b) (c) 18.1.14	Clearance between king pin and bush, (mm) Clearance between centre pin and bush, (mm) Literature (Submis Operator manual Parts Catalogue Workshop/ Service manual Fitment of Roll Ov For tractor having more than 1150 mm rear track width Standard Accessories	Non Evaluative Non Evaluative ssion to test ager Evaluative Evaluative Evaluative Evaluative Evaluative Evaluative Evaluative Evaluative Evaluative	-do- Provided / Not Provided Provided / Not Provided Provided / Not Provided Provided / Not Provided uctures (ROPS): ROPS should requirement of I OECD code or International Sta Trailer hitch, hook, linkage should be provided	0.35 1.25 Provided Provided Provided meet the S:1182 or equivalent and ard front tow drawbar vided with	0.35 0.06 to 0.10 0.11 to 0.16 Provided Provided Provided Not fitted	Yes Yes Yes Yes Not applicable
(i) 18.1.13 (a) (b) (c) 18.1.14	Clearance between king pin and bush, (mm) Clearance between centre pin and bush, (mm) Literature (Submis Operator manual Parts Catalogue Workshop/ Service manual Fitment of Roll Over the pin of t	Non Evaluative Non Evaluative Ssion to test ager Evaluative Evaluative Evaluative Evaluative Evaluative Evaluative Evaluative Evaluative Non	-do- Provided / Not Provided International State Trailer hitch, hook, linkage should be provitractor Ballast weight,	0.35 1.25 Provided Provided Provided Provided meet the S:1182 or equivalent and ard front tow drawbar rided with if fitted,	0.35 0.06 to 0.10 0.11 to 0.16 Provided Provided Provided Provided Provided	Yes Yes Yes Yes Not applicable Yes
(i) 18.1.13 (a) (b) (c) 18.1.14	Clearance between king pin and bush, (mm) Clearance between centre pin and bush, (mm) Literature (Submis Operator manual Parts Catalogue Workshop/ Service manual Fitment of Roll Ov For tractor having more than 1150 mm rear track width Standard Accessories	Non Evaluative Non Evaluative ssion to test ager Evaluative Evaluative Evaluative Evaluative Evaluative Evaluative Evaluative Evaluative Evaluative	-do- Provided / Not Provided Provided / Not Provided Provided / Not Provided Provided / Not Provided uctures (ROPS): ROPS should requirement of I OECD code or International Sta Trailer hitch, hook, linkage should be provided	0.35 1.25 Provided Provided Provided Provided requivalent and ard front tow drawbar rided with if fitted, et the	0.35 0.06 to 0.10 0.11 to 0.16 Provided Provided Provided Not fitted	Yes Yes Yes Yes Not applicable

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18.2	CATEGORY (OF BREAKDOW	/NS / DEFECTS (As per clause	5.0 of IS:122	07-2019):
S. No.	Category of breakdowns	Category (Evaluative / Non Evaluative)	Requirements as per IS: 12207-2019	As observed	Whether meets the Require- ments (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:

- Guidelines for declaration of power and specific fuel consumption : Conforms and labeling of agricultural tractors (First revision) [IS:10273 -1987 (Reaffirmed Year 2019)]
- ii) Agricultural tractors Rear mounted power take-off Types 1, 2 : Conforms and 3 (third revision) [IS:4931-1995 (Reaffirmed Year 2019)]
- Agricultural wheeled tractors Rear mounted three-point linkage: : Does not Part 1 Categories 1, 2, 3 & 4 (fourth revision) [IS:4468(Part-I) conform 1997 (Reaffirmed in 2022)]
- iv) Drawbar for agricultural tractors Link type [IS 12953:1990 : Conforms (Reaffirmed Year 2022)]
- v) Agricultural tractors- Operator's seat technical requirement : Does not [IS12343 2021] conform
- vi) Guide for safety & comfort of operator of agricultural tractors:Part 1: Does not General requirements (first revision):[IS 12239 (Part 1) 2018] conform
- vii) Tractors and machinery for agriculture and forestry Technical : Does not means for ensuring safety Part 2: Tractors (first revision) (IS 12239 conform (Part 2) 1999) (Reaffirmed Year 2019)]
- viii) Guide lines for location and operation of operator controls on : Does not agricultural tractors and machinery [IS: 8133 2021] conform
 ix) Tractors and machinery for agriculture and forestry, powered lawn : Does not
- 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 (Reaffirmed Year 2019) and IS: 6283 (Part-2) 2007 (Reaffirmed Year 2019)]
- x) Agricultural Tractors and Machinery-Lighting device for travel on : Conforms public roads (IS:14683-1999) (Reaffirmed Year 2019)]

18.4 Salient Observations:

18.4.1 Laboratory tests:

18.4.1.1 PTO performance test:

During PTO performance test under natural ambient condition, the maximum no load engine speed was observed as 2478 to 2481 against the declaration of 2300 to 2475. Upon this, the applicant has requested vide letter no. Nil dated 14.07.2022 and requested for adjustment of no load engine speed to 2461 rpm, which was allowed.

conform

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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 left foot rests, right foot rest, steering wheel and operator's seat to improve the operational comfort and service life of components.

18.4.1.3 Three point linkage:

The dimensions viz. diameter of hitch pin hole & width of ball of upper hitch points, diameter of hitch pin hole & width of ball of lower hitch points and lateral distance from lower hitch point to centre line of tractor does not meet the requirements of IS:4468 (Part-I) – 1997. This should be looked into for corrective action.

18.4.1.4 Operator's seat:

- Adjustment of driver's mass should be provided as per the above referred standard
- ii) Vertical distance from Seat Index Point to centre of clutch pedal was measured 470 mm against the requirement of 230 to 460 mm.
- iii) Vertical distance from Seat Index Point to centre of Brake pedal was measured 525 mm against the requirement of 230 to 460 mm.
- iv) Vertical distance from Seat Index Point to centre of steering control wheel was measured 180 mm against the requirement of 265 to 385 mm.
- v) Vertical distance from Seat Index Point from foot rest was measured 565 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.

18.4.1.5 Operator's work place:

- i) Vertical retainer has not been provided on inner side of clutch pedal.
- **ii)** 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:

- The working clearance around Draft control lever & RHS fender has been measured as 50 mm should be provided as per the requirement of IS: 12239 (Part-2) - 1999, (Reaffirmed in January, 2019).
- ii) Identification of hand control by colour coding should be provided as per the requirement of IS: 8133-2021.
- iii) Identification of rockshaft (Basic, Up & Down) should be provided as per of IS: 6283 (Part 1&2) 1998 (Re-affirmed in January, 2019).

18.7 Field test:

During field test with rotavator, engine got stopped. Upon inspection, it was observed that fuel line (from fuel tank to fuel filter) got chocked. Thereupon, applicant has submitted letter No. Nil dated 15.11.2022 and requested for cleaning of "fuel tank" and assembly "fuel tap & Filter", which was allowed.

18.8 Haulage Test

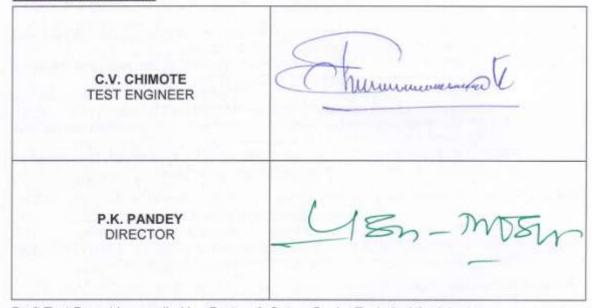
During haulage test, the specific fuel consumption with two wheel and four wheel trailer was observed as 31.43 to 33.37 cc/km/ton and 30.95 cc/km/ton against the declaration of 25 to 30 cc/km/ton. This should be looked into for necessary corrective action.

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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.
 - a) Operator instruction book for MF 245 DI V1 tractor model.
 - b) Workshop service manual for MF 245 DI V1 tractor model.
 - c) Parts book for MF 245 DI V1 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:
 - i) Safe hitch height while using trailer.
 - Coolant water ratio.

TESTING AUTHORITY:



Draft Test Report is compiled by: Pratyush Satya, Senior Technical Assistant

19. APPLICANT'S COMMENTS

Para no.	Our reference	Comments		
19.1	18.3 (iii, v, vi, vii, viii & ix)	Parameters will be studied and necessary corrective action will be initiated.		
19.2	18.4.1.2, 18.4.1.3, 18.4.1.4, 18.4.1.5, 18.4.1.6, 18.6, 18.7, 18.8 & 18.9.2	Parameters will be studied and necessary corrective 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
1	Make	MF	Field king
2	Туре	Mounted	Mounted
3	No. of Discs / Blades	Two	47 in 7 flanges
4	Type of Discs / Blades	Plain concave	Hatchet
5	Size of Discs / Blades, (mm)	650	280 x 85 x 7
6	Spacing of Discs /Flanges,	510	245
	(mm)		
7	Lower hitch point span,	735	800
	(mm)		
8	Mast height, (mm)	540	605
9	Overall Dimensions, (mm):		
	Length	1550	1110
	Width	990	2020
	Height	1110	1150
10	Gross Mass, (kg)	250	445

ANNEXURE-II

BRIEF SPECIFICATION OF MATCHING CAGE WHEEL AS DECLARED BY APPLICANT

S. No.	Items	Specification
1	Type	Full cage wheel
2	Outer dia. (mm)	1265
3	Width (mm)	950
4	No. & Type of Lugs	26, straight lugs made up 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)	470
7	Spacing of lug, (mm)	265
8	Weight of each cage wheel, (kg)	130

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.	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		

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ANNEXURE-IV

TRACTOR RUN HOURS DURING TEST

A.	LABORATORY AND TRACK TESTS:	HOURS
1.	Running-in	36.0
2.	PTO performance test	12.4
3.	Power lift and hydraulic pump performance test	3.5
4.	Drawbar performance test	17.4
5.	Turning ability	0.2
6.	Location of centre of gravity	0.2
7.	Operator's field of vision	0.5
8.	Brake test	1.4
9.	Noise measurement	1.3
10.	Mechanical vibration test	0.8
11.	Nominal speed test	0.8
12.	Air cleaner oil pull over	3.5
В.	FIELD TEST:	
1.	Disc ploughing	10.5
2.	Rotavation	10.5
3.	Puddling (including 5.0 hours water proof test)	15.5
C.	HAULAGE TEST:	6.4
D.	Miscellaneous test and other run hours including idle run,	9.5
	transportation, trials and preparation for test	
	TOTAL:	130.4