व्यावसायिक परीक्षण रिपोर्ट संख्या/No. : T-1627/2158/2022 COMMERCIAL TEST REPORT (Initial) माह/Month : February, 2022

(यह परीक्षण रिपोर्ट 28/02/2025 तक वैध है / THIS TEST REPORT IS VALID UPTO 28/02/2025) [ONLINE TESTING]



MAHINDRA, NOVO 605 DI TRACTOR



भारत सरकार कृषि एवं किसान कल्याण मंत्रालय (कृषि, सहकारिता एवं किसान कल्याण विभाग)

GOVERNMENT OF INDIA MINISTRY OF AGRICULTURE AND FARMERS WELFARE (DEPARTMENT OF AGRICULTURE, CO-OPERATION & FARMERS WELFARE) केन्द्रीय कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान ट्रैक्टर नगर, बुदनी (म.प्र.) 466 445

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1-1027	12130/2022	THIS	TEST REP	0	RT IS VALID UPT	O: 28/05/2025
		1.	SPECIFI	C	ATIONS	
1.1	Tractor: Make Model Type		:	:	Mahindra Novo 605 DI Rear Wheel Dr	rive, Standard Agricultural
	Month & ye Chassis nu Country of c	ar of manufacture mber origin	:	:	04/21 MBNWHHDBYM India	INA00007
1.2	1.2 Engine: Manufacturer's address			:	M/s. Mahindra 8 (Farm Equipmen Hingna Road, Na (Maharashtra)	& Mahindra Limited ht Sector), MIDC Area, agpur – 440016
	Make		:	:	Mahindra	
	Model		:	:	MTMSC35NA05	5TR4
	Туре		:	:	Four stroke, con naturally aspirat engine.	mmon rail direct injection, ted, liquid cooled, diesel
	Serial numb	ber	:	:	NMA5SCE0004	
	Country of o	origin	:	:	India	
1.2.1	Engine spe	eed (rpm), (Manuf	acturer's re	ec	commended proc	duction settings):
	- Maximum	speed at no load	:	:	2225 to 2375 (Pc	ower Mode)
	- Low idle s	speed	:	:	800 to 900	
	- Speed at	maximum torque	:		1000 to 1300	
	- For PTO	ed, (rpm):			2100	
	- For drawb	ar lise			2100	
4.0	Culindar 8		•	•	2100	
1.3	Number	Cylinder Head:			Four	
	Disposition				Vertical Inline	
	Bore/stroke	e. (mm)	:		96/122	
	Capacity as	s specified by the	:		3532	
	applicant, ((cc)				
	Compressi	on ratio	:		17.2 (± 0.5) : 1	
	Type of cyl	inder head	:		Wot roplaceable	,
	Type of co	mbustion chamber	:		Re-entrant cavity	, on niston head
	Arrangeme	ent of valves			Overhead, inline	
	Valve clea	rance (cold/hot):	•	•	Cold	Hot
	- Inlet valve	e, (mm)	:		0.3	0.4
	- Exhaust v	/alve, (mm)	:		0.4	0.5
1.4	Fuel Syste Type of fue	en: el feed system	:	:	Gravity and force	efeed
1.4.1	Fuel tank:					
	Capacity, (1)	:	•	61.0 Abaya alatak l	
	LOCATION Provision f	or draining of acdin	: aonte/		Above clutch hou	using
	water	or uraining of sedin	ients/ :	•	FIUNICEC	
	Material of	fuel tank	:		Metallic	

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16. ADJUSTMENTS, DEFECTS, BREAKDOWNS AND REPAIRS

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

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:

SI. No.	Cha	aracteristic	Category (Evaluative / Non Evaluative)	Requirements as per IS: 12207-2019	Values declared by the applicant/ (D) Requirement (R)	As observed	Whether meets the require- ments (Yes/No)
1		2	3	4	5	6	7
17.1.1	ΡΤΟ	Performance	:	1			
a)	Maxii unde (kW) ambie	mum power r 2 h test, (Natural ent 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.	36.4 (Power Mode) (D)	37.9	Yes
b)	Powe engir (kW)	er at rated ne speed,	Non Evaluative	-do-	36.4 (Power Mode) (D)	37.9	Yes
с)	Spec consi corre maxii (g/kV	ific fuel umption sponding to mum power, Vh)	Evaluative	+ 10% max.	264 (Power Mode) (D)	258	Yes
d)	Maxii equiv crank torqu	mum ⁄alent ‹shaft e, (Nm)	Non Evaluative	± 8%	217 (D)	206.5	Yes
e)	Back perce	-up torque, ent	Evaluative	12 percent	21 (D) 12 (R) Minimum	22.1	Yes
f)	Maxi	mum operating	g temperature	, (⁰ 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.	135 (D)	126	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)	105	Yes

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1	2	3	4	5	6	7
a)	Engine oil		Not exceeding 1% of SFC at	2.56		-
5/	consumption, (g/kWh)	Evaluative	max. Power under High ambient conditions.	Maximum (R)	0.28	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 Maximum (R)	0.17	Yes
17.1.2	Drawbar performan	ce :	<u> </u>			
a)	Max. drawbar pull with ballasted corresponding to 15 percent wheel slip, (kN)	Non Evaluative	Minimum 70% of static mass of tractor with ballast.	22.00 (D) 20.83 Minimum (R)	25.41	Yes
b)	Max. drawbar pull with standard ballast		Minimum 70% of static mass of tractor without ballast or with standard	17.6 (D)		
	corresponding to 15 percent wheel slip, (kN)	Evaluative	ballast, as the case may be.	17.23 (R) Minimum	21.38	Yes
c)	Maximum drawbar power with standard	Evaluative	Minimum 80 % of PTO power as referred in SI No. i) a) of PTO performance in case of tractors having total static	29.12 (D)	00.0	Mara
	ballast, (kW).		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.	29.8 (R) Minimum	33.0	Yes
d)	Maximum transmission oil temperature, (°C)	Evaluative	The declared value should not exceed the maximum value specified by oil company	120 (D)	86	Yes
17.1.3	Power lift and hyd	Iraulic pump	performance:			
a)	Maximum lifting ca	pacity through	nout the range of lift, (kN):			
	1) At hitch points	Evaluative	Tolerance of ± 10%	21.6 (D)	20.49	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.	13.20 (D) 8.92 (R) Minimum	12.96	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) Maximum	00	Yes

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1		2	3			4			5	6	7
17.1.4	Bra	ke performan	ce at 25 k	mp	oh:						
a)	Max	(imum stopping	g distance	at	a force, equa	al to	or less tha	n 6	00 N on	brake pe	dal with
	1)	Cold brake	Evaluati	Ve		10			0 (R)	6 91	Yes
	2)	Hot brake	Evaluati	ve		10		-	10(R)	7 85	Yes
b)	/ Max	kimum force	exerted	on				6	00 (R)	175	
~,	the	brake pedal t	o achieve	a	Evaluativ	е	600			to 210	Yes
	deceleration of 2.5 m/s ² , (N)					IVI	aximum	10 2 10			
C)	Whe	ether parking	brake	is			Yes /				
	effe	ctive at a force	e of 600 N	at	Evaluativ	е	1007		Yes	Yes	Yes
	foot	pedal (s) of	400 N	at			NO				
1715	Noi		ont ·								
2)	Max	vimum ambi	ent noi	60	Γ		As por				
a)	omi	tted by the trac	tor $dR(\Delta)$	30	Evaluative	Э			88 (R)	81	Yes
b)	Max		t oporato	r'c					06		
D)	opr	Invel dB(A)		15	Evaluative	Э			90 (R)	91	Yes
17.1.6	Am	plitude of me	chanical v	/ibr	rations at:		OWIVIX		(13)		
_	1)	Left foot rest						Τ		72	Yes
	2)	Pight foot reg	. +							30	Vec
	2)		bi ar a a ata	d)	Non	10	0 microns		100 (D)	32	Vee
	3)	Seat (with dr	iver seale	u)	Evaluative		(max.)		(R)	30	res
	4)	Steering whe	el							80	Yes
17.1.7	Air	cleaner:									
	Max	kimum air cle	aner oil	E	Evaluative		0.25		Dry typ	be air	Not
	pull	over, (%)			(Max.)		cleaner fitted		appli-		
17.1.8	Hau	lage requiren	nents:								Cable
a)	Gro	ss mass of the	trailers, (ton	ne):						
	Two	wheel			Non	Δc	specified	r,	5 O (D)	50	Yes
	_			E	valuative	7.0	by the).0 (D)	0.0	100
	Fou	rwheel		F	Non	ma	nufacturer	8	3.0 (D)	8.0	Yes
b)	Dist	tance travelle	d / liter of	fue	el consump	tion	(km/l):				
~,	Two	wheel			<u> </u>	,	(5.04	4.50	Yes
					Non				to	to	
				E	valuative	As	specified		5.24	4.65	
	_	u la a a l					by the		(D)	2.05	
	Fou	rwneei			Non	ma	nulacturer		4.20	3.95 to	Voc
				E	valuative				(D)	4.26	163
c)	Fue	l consumptio	n, (ml/km	/to	nne):			1	(= /		
	Two	wheel			-				39.20	43.04	
				_	Non				to	to	No
				E	valuative	As	specified		39.65	44.49	
	Fou	r wheel					by the	-	(ロ) 29.01	29 32	
	1.00				Non	ma	nufacturer		_0.01	20.02 to	
				Е	valuative				29.32	29.92	NO
									(D)		

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1		2		3	4	5	6	7
17.1.9	We	tland cultivation			-			<u> </u>
	Sea follo	ling for the wing assemblies:	Evaluative	The identified assemblies should essentially meet the	Thoro			
	1)	assembly	-00-	requirement of IS: 11082. No water	should be	No ing	ress of	
	2)	Brake housings	-do-	ingress in the identified assembly	no ingress of	water	and/or was	
	3)	Front axle hubs	-do-	given in column-2. If tractor does not meet the	and/or mud (R)	observ	ed	Yes
	4)	Engine Oil	-do-	requirements of				
	5)	Transmission Oil	-do-	wetland cultivation, it may be recommended for dry land operation only.				
17.1.10	Saf	ety features :						
a)	Gua mov part	ards against ving and hot ts	Evaluative	Belt drives, pulleys hydraulic pipes (/ 12239 (Part2)	s, silencer, As per IS	Meets t require	he ment	Yes
b)	Ligh	nting angement	Evaluative	As per CM\	/R	Meets t require	he ment	Yes
c)	Sea (Tra thar trac	ting requirements ctors having more 1150 mm rear k width)	Non Evaluative	Should meet the re of IS: 12343 (As from time to time)	Should meet the requirements of IS: 12343 (As amended from time to time)		not the ement	No
d)	Tec req PT(hnical uirements for D shaft	Evaluative	Iluative Should meet the requirements of IS: 4931 (As amended from time to time)		Meets t require	he ment	Yes
e)	Dim poir	nensions of three nt linkage	Non Evaluative	Should meet the requirements of IS: 4468 (Part-I) (As amended from time to time)		Meets f require	he ment	Yes
f)	Spe link	ecifications of age drawbar	Evaluative	Should meet the re of IS: 12953 (As from time to time)	quirements amended	Meets t require	he: ment	Yes
g)	Swi (wh	nging drawbar erever fitted)	Evaluative	Should meet the r of IS: 12362 (Pa amended from time	equirement art 3) (As to time)	Not pro	vided	Not appli- cable
h)	1)	Maximum travelling speed at rated engine speed in reverse gears, Kmph	Evaluative	Should not exceed 20 Kmph		17.23 (Meets require	the ment)	Yes
	2)	Audible warning signal on tractor	Evaluative	As soon as the travel reverse gear reaches an audible warning tractor shall be act safety aspects about th of shuttle technolog brought in oper manufacturer /dealer the training on this operator before the tractor.	ling speed in to 20 kmph, signal on tivated. The the operation y shall be ation and shall ensure aspect to delivery of	Not fi	tted	Not appli- cable

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1		2	3	4	5	6	7
17.1.11	Lal	belling of tractor	rs (Provision	of labelling plate):			
	1)	Make	Evaluative	Should conform to	M	ahindra	Yes
	2)	Model	Evaluative	the requirements of	NOV	'O 605 DI	Yes
	3)	Month &	Evaluative	CMVR along with		04/21	
		Year of		in kW and year of			Yes
		manufacture		manufacture in			
	4)	Engine	Evaluative	numerical form.	NMA:	5SCE0004	Yes
		number	Evelvetive	MM YY			Vee
	5)	Chassis	Evaluative	Digit 01 – 12 in box	MBNV		Yes
	6)	Maximum	Evaluative	No.1		36.4	Yes
	0)	PTO power		for MM will represent		50.4	103
		(kW)		the months and next			
				for YY			
				will represent the year			
				of			
17 1 12	Die	oard limit for		Manufacturing.			
(2)		inder bore	Evaluative			96,000	
(4)	dia	meter (mm)			96.522	to	Yes
	aia			To be specified by		96.003	100
(b)	Cle	arance		the manufacturer		0.000	
. ,	bet	ween piston &	Non	and supported by	0.50	0.086	Vaa
	cyli	nder liner at	Evaluative	the printed literature			res
	ski	rt, (mm)				0.090	
(c)	Pis	ton diameter at	Non		95 600	95.913	
	skii	rt, (mm)	Evaluative		00.000	to	Yes
-1/	D '		-			95.917	
a)	RIN	ng end gap (mm)):			0.20	Vee
	-	rop comp. mg.			15	0.30	res
				To be specified by	1.5	0.40	
	-	2 nd comp. ring.		the manufacturer	2.5	0.90	Yes
		_ compr	Evaluative	and supported by		to	
				the printed literature		0.95	
	-	Oil ring.			2.0	0.45	Yes
						to	
						0.50	
(e)	Rin	ng groove cleara	nce (mm):		0.00	Tenneral	
	-	rop comp. ring.		To be enablished by	0.30	i appered	
	-	2 ^{°°} comp. ring.		the manufacturer	0.30	0.090	Yes
			Evaluative	and supported by		10 0.005	
	_	Oil ring		the printed literature	0.25	0.095	Ves
		Ciring.			0.20	0.040 to	103
						0.054	
(f)	Cle	arance of main	bearings (mi	m):			
	-	Diametrical	U V	To be specified by		0.085	
		clearance	Evaluative	the manufacturer	0.30	to	Yes
				and supported by		0.091	
	-	Crankshaft end	Evaluative	the printed	0.80	0.27	Yes
		float		literature	0.00	0.21	103

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1	2	3	4	5	6	7
(g)	Clearance of big er	nd bearings,	(mm):	•		
	- Diametrical	Evaluative	-do-	0.20	0.071 to 0.081	Yes
	- Axial	Evaluative	-do-	0.75	0.10 to 0.15	Yes
(h)	Clearance between king pin and bush, (mm)	Non Evaluative	-do-	0.20	0.041 to 0.053	Yes
(i)	Clearance between centre pin and bush, (mm)	Non Evaluative	-do-	0.20	0.131 to 0.135	Yes
17.1.13	Literature (Submis	sion to test a	igency)			
(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 Ove	er Protective	Structures (ROP	PS):		
	For tractor having more than 1150 mm rear track width	Evaluative	ROPS should requirement of OECD code or International Sta	meet the IS:1182 or equivalent andard	Not fitted	Not appli cable
17.1.15	Standard Accessories	Evaluative	Trailer hitch, hook, linkage should be pro tractor	front tow drawbar vided with	Provided	Yes
17.1.16	Accessories (optional)	Non Evaluative	Ballast weight, should me requirement of (, if fitted, et the CMVR	Provided	Yes

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

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17.3 Salient Observations:

17.3.1 Laboratory tests:

17.3.1.1 Hydraulic Performance:

The maximum tilt angle of mast from vertical over the full range of lift was observed as **8.5** degrees against the minimum requirement of 10 degree as per IS: 12224-1987. This should be looked into for necessary corrective action.

17.3.1.2 Mechanical Vibration:

The amplitude of mechanical vibration on various assemblies marked as (*) in Chapter-8 of this test report is on higher side. This calls for dampening down of vibrations to improve the operational comfort and service life of components.

17.3.1.3 Operator's Seat:

- Longitudinal distance from seat index point to the centre of differential lock pedal has been measured as 150 mm against the requirement of 355 to 770 mm.
- Longitudinal distance from seat index point to the centre of steering control wheel has been measured as 390 mm against the requirement of 425 to 525 mm.
- iii) Vertical distance from seat index point to the centre of clutch & brake pedal has been measured as 350 mm respectively, against the requirement of 380 to 620 mm.

Above parameters does not meet the requirement of IS: 12343-1998, (Re-affirmed in January, 2019). This should be looked into for necessary corrective action at production level.

17.3.1.4 Operator's work place:

Operator's work place meets the requirements of IS: 12239 (Part-I) 1996 (Reaffirmed Oct., 2017), **except the following:**

- i) Vertical retainer on inner side of clutch pedal has not been provided.
- ii) Spark arrester in the exhaust system has not been provided.

Above parameters does not meet the requirement of IS: 12239 (Part-I) 1996 (Reaffirmed Oct., 2017). This should be looked into for necessary corrective action at production level.

17.4.1.5 Constructional requirement with regard to safety:

Meets the requirements of IS: 12239 (Part-II)-1996 (Re-affirmed in January, 2019), except the following:

- i) PTO master shield has not been provided.
- ii) The working clearance around position and draft control lever has been measured as 50 mm against the minimum requirement of 70 mm.

Above parameters does not meet the requirement of IS: 12239 (Part-II)-1996 (Reaffirmed in January, 2019). This should be looked into for necessary corrective action at production level.

17.3.1.6 Specifications of Power Take-off Shaft:

In addition to clockwise rotation of PTO shaft, anticlockwise rotation has also been provided in contrast of "clockwise rotation" recommended in Clause No.4 of IS: 4931-1995. The provision of anticlockwise rotation has the potential of rendering the tractor not conforming to IS: 4931-1995. In this case it may lead to non-inclusion of tractor in the subsidy list. This should be looked into for necessary corrective action.

In response thereto, the applicant vide letter No. FD/BVH/ICT/T4N605/21-22/11 dated 02.03.2022 has submitted that "to meet the IS: 4931-1995 requirement, we have decided to remove Gear Driven PTO reverse idler (Part No. 006515367U1) and Fork-2 Speed PTO (Part No. 006515372U1)" and thereby there would be only one direction of rotation i.e. clockwise, and which conforms to IS: 4931-1995 was allowed. Thus tractor now became IS:4931-1995 conformant.

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17.3.1.7 PTO master shield:

PTO master shield not provided on tractor as per the requirements of IS: 4931-1995 (Reaffirmed in 2004). This should be looked into for necessary corrective action.

17.3.1.8 Haulage Test:

The specific fuel consumption with two and four wheel trailer was recorded as **43.04** to **44.49 & 29.32** to **29.92** ml/km/tonne, respectively against the declaration of 39.20 to 39.65 & 29.01 to 29.32 ml/km/tonne respectively. This should to be looked into for necessary corrective action.

17.4 Maintenance / Service Problems:

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

17.5 Recommendation with regard to safety on tractor:

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

- Longitudinal distance from seat index point to the centre of differential lock pedal has been measured as 150 mm against the requirement of 355 to 770 mm.
- Longitudinal distance from seat index point to the centre of steering control wheel has been measured as 390 mm against the requirement of 425 to 525 mm.
- iii) Vertical distance from seat index point to the centre of clutch & brake pedal has been measured as 350 mm respectively, against the requirement of 380 to 620 mm.
- iv) Vertical retainers at both sides of clutch pedal should be provided.
- v) Spark arrester should be provided in the exhaust system as per the requirement of IS: 12239 (Part-2)-1999 (Re-affirmed in January, 2019).
- vi) The working clearance between position and draft control lever of hydraulic system was measured as 50 mm against the minimum requirement 70 mm as per IS: 12239 (Part-2)-1999 (Re-affirmed in January, 2019).
- vii) Master shield of PTO shaft should be provided as per the requirement of IS: 4931-1995 (Re-affirmed in January, 2019).

17.6 Adequacy of Literature supplied with machine:

- **17.6.1** The following literatures were supplied with the test tractor for reference during the test:
 - a) Operator Manual for "Mahindra Arjun/Novo Trem IV" tractor models.
 - b) Parts catalogue for "Mahindra Novo 605 DI & Mahindra Novo 655 DI PP 4WD" tractor models.
 - c) Service manual (Part-I and Part-II) for "Mahindra Novo 605 DI & Mahindra Novo 655 DI PP 4WD" tractor models.

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The operator manual may be brought out for the guidance of users and service 17.6.2 personnel as per IS:8132-1999 incorporating, inter alia, the following:

- i) Safe hitch height while using trailer.
- ii) Coolant water ratio.
- iii) "CARE Button" for convenience of the farmers.
- Technical information related to creeper unit in the part catalogue & service iv) manual.

TESTING AUTHORITY:



Draft test report is compiled by: Pramod Yadav, Agricultural Engineer.

18. APPLICANT'S COMMENTS

Para No.	Our reference	Applicant's comments
18.1	17.3.1.1, 17.3.1.3 (i),(ii) & (iii), 17.3.1.4 9 (i) & (ii) and 17.3.1.5 (ii)	Parameters will be studied and necessary action will be initiated.
18.2	17.3.1.6	The applicant vide letter No. FD/BVH/ICT/T4N605/21- 22/11 dated 02.03.2022 has submitted that "to meet the IS:4931 requirement, we have decided to eliminate the anticlockwise PTO option by removing Gear Driven PTO reverse idler (Part No. 006515367U1) and Fork-2 Speed PTO (Part No. 006515372U1)" which was allowed.
18.3	17.6.2 (i)	We will study further and necessary action will be decided.
	17.6.2 (ii)	We will study requirement and necessary details will be incorporated in the operator's manual.
	17.6. (iv)	It is observed that the details of creeper unit is not available in the "Parts Catalogue & Service Manual" submitted to the institute. The applicant vide letter No. FD/BVH/ICT/T4N605/20-22/10 dated 25.02.2022 stated that details of creeper unit is available in the revised copy of product literature.

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T_1	627	1/21	58	120	122

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ANNEXURE- I

BRIEF SPECIFICATION OF IMPLEMENTS USED DURING FIELD TEST

S. No.	Parameters	Disc Plough	Rotavator	Roto puddler
1	Make	Farmking	Mahindra	Escorts
2	Туре	Mounted	Mounted	Mounted
3	No. of Discs / Blades	Two	36 in 8 flanges	46
4	Type of Discs / Blades	Plain concave	Hatchet	Hatchet
5	Size of Discs / Blades, (mm)	655	265 x 85 x 8	225 x 45 x 6.6
6	Spacing of Discs /Flanges, (mm)	495	325	NA
7	Lower hitch point span, (mm)	760	785	755
8	Mast height, (mm)	480	595	660
9	Overall Dimensions, (mm):			
	Length	1480	970	2045
	Width	1060	1690	940
	Height	1180	1105	1215
10	Gross Mass, (kg)	200	450	385

ANNEXURE-II

BRIEF SPECIFICATION OF HALF CAGE WHEEL

Sr.No.	Items	Specification
1	Туре	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

TRACTOR RUN HOURS DURING TEST

Α.	LABORATORY AND TRACK TESTS:	HOURS
1.	Running-in	47.0
2.	PTO performance test	13.5
3.	Power lift and hydraulic pump performance test	3.5
4.	Drawbar performance test	22.3
5.	Turning ability	0.5
6.	Location of centre of gravity	0.4
7.	Operator's field of vision	
8.	Brake test	2.5
9.	Noise measurement	2.3
10.	Mechanical vibration test	0.5
11.	Nominal speed test	1.1
В.	FIELD TEST:	
1.	Disc ploughing	10.8
2.	Rotavation	10.8
3.	Puddling (including 5.0 hours water proof test)	15.3
C.	HAULAGE TEST:	5.2
D.	Miscellaneous test and other run hours including idle run,	9.3
	transportation, trials and preparation for test	
	TOTAL:	145.0

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