

व्यावसायिक परीक्षण रिपोर्ट,
COMMERCIAL TEST REPORT (Initial)

संख्या / No. : T-1061/1586/2017
माह / Month : January, 2017



TAFE, MF 5245 DI 4WD TRACTOR



सत्यमेव जयते

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 AND FARMERS WELFARE)

केन्द्रीय कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान

ट्रैक्टर नगर, बुदनी (म.प्र.) ४६६ ४४५

CENTRAL FARM MACHINERY TRAINING & TESTING INSTITUTE

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TAFE , MF 5245 DI 4WD TRACTOR - COMMERCIAL (Initial)

Manufacturer : M/s. Tractors and Farm Equipment Ltd.
Post Box No. 3302
35, Mahatma Gandhi Road,
Nungambakkam,
Chennai – 600 034 (Tamil Nadu)

Location of plant (s) : i) Tractors and Farm Equipment Ltd.,
Kalladipatti Plant, 10/205, Kalladipatti
(P.O.) – 624 201, Dindigul District
(Tamil Nadu)
ii) Tractors and Farm Equipment Ltd.,
Doddapallapur Plant,
Plot No. 1, Kiadb Industrial Estate,
Doddapallapur,
Bangalore – 561 203 (Karnataka)

Test requested by (applicant) : The manufacturer
Selected for test by : Applicant
Place of running-in : At manufacturer's works

Duration of said running-in (h):
- Engine : 12
- Transmission : 24

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

1. SPECIFICATIONS

- 1.1 Tractor:**
- Make : TAFE Ltd.
Model : MF 5245 DI 4WD
Variants, if any : None
Brand name : None
Type : Four wheeled, Four wheel driven,
General Purpose Agricultural Tractor.
Year of manufacture : 2015
Chassis number : MEA 4DF5FFF3000036
Country of Origin : INDIA
- 1.2 Engine:**
- Make : SIMPSON & Co. Ltd.
Model : T III ASJ 327 F3
Type : Four stroke, naturally aspirated, liquid
cooled, direct injection, diesel engine.
Serial number : SJ32750029
- Engine speed (Manufacturer's recommended production setting), (rpm) :**
- Maximum speed at no load, (rpm) : 2300 to 2475
- Low idle speed, (rpm) : 600 to 800
- Speed at max. torque, (rpm) : 1200 to 1500
- Rated speed, (rpm):**
- For PTO use : 2250
- For drawbar use : 2250



17. SUMMARY OF OBSERVATIONS, COMMENTS & RECOMMENDATIONS

17.1 Evaluative (mandatory) / Non-evaluation (Non-mandatory) parameter applicable for qualifying Minimum Performance criteria as per Clause-4 (Table-1) of IS: 12207-2014 for acceptance of the tractor for the purpose of subsidies/NABARD financing are summarized as under:

S. No.	Characteristic	Category (Evaluative / Non Evaluative)	Requirements as per IS: 12207-2014	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: -5 / +10% for PTO power >26kW. -7.5/+10% for PTO power ≤ 26kW	33.7 (D)	33.3	Yes
b)	Power at rated engine speed, (kW)	Non Evaluative	-do-	33.7 (D)	33.3	Yes
c)	Specific fuel consumption corresponding to maximum power, (g/kWh)	Non Evaluative	+ 5%	265 (D)	247	Yes
d)	Maximum equivalent crankshaft torque, (Nm)	Non Evaluative	± 8%	155 (D)	170.8	Yes
e)	Back-up torque, percent	Non Evaluative	10 percent, min.	10 percent, min (R)	20.7	Yes
f) Maximum operating temperature (°C):						
	1) Engine oil	Non Evaluative	The declared value should not exceed the max. value specified by the oil company and the observed value under high ambient condition should not exceed the declaration.	132 (D)	124	Yes
	2) Coolant (water)	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)	100	Yes
g)	Engine oil consumption, (g/kWh)	Evaluative	Not exceeding 1% of SFC at max. power under high ambient conditions	2.5 (R) 1% of SFC, max. (D)	0.32	Yes



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1	2	3	4	5	6	7
h)	Smoke level	Evaluative	Maximum light absorption coefficient of 3.25 per metre or equivalent BOSCH No. 5.2 or 75 Hatridge value (As per CMVR)	3.25 per metre (R)	0.22 per meter	Yes
17.1.2 Drawbar performance:						
a)	Maximum drawbar pull with ballast corresponding to 15 percent wheel slip, (kN).	Non Evaluative	Minimum 65% of static mass of tractor with ballast	24.47 (D) 22.0 (R) Minimum	29.46	Yes
b)	Maximum drawbar pull with Std. ballast corresponding to 15 percent wheel slip, (kN).	Evaluative	Minimum 65% of static mass of tractor without ballast	17.42(D) 15.65(R) Minimum	21.64	Yes
c)	Maximum drawbar power without ballast (kW).	Evaluative	Minimum 80% of PTO power as referred in Sl. No. i) a) of PTO performance in case of tractors having total static mass >1500 kg. Minimum 75% of PTO power as referred in Sl. No. i) a) of PTO performance in case of light weight tractors. Minimum 75% of the engine power as referred in Sl. No. i) a) of PTO performance in case of tractors which do not have a PTO shaft.	26.95 (D) 26.6 (R) Minimum	28.7	Yes
d)	Maximum transmission oil temperature (°C)	Non Evaluative	The declared value should not exceed the maximum value specified by oil company.	120 (D)	86	Yes
17.1.3 Power lift and hydraulic pump performance:						
a)	Maximum lifting capacity throughout the range of lift, (kN):					
	1) At hitch points	Non Evaluative	[Tolerance of minus 10%]	8.83 (D)	15.23	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	8.55 (D) 7.8 (R) Minimum	10.69	Yes



1	2	3	4	5	6	7
b)	Maximum drop in the height of the point of application of the force after each 5 minutes interval for a total duration of 30 minute, (mm)	Non Evaluative	The observed value should not exceed 50 mm	50 (D) 50 (R)	30	Yes
17.1.4 Brake performance at 25 kmph:						
a)	Maximum stopping distance at a force, equal to or less than 600 N on brake pedal with road ballast, (m):					
	1) Cold brake	Evaluative	10	10 (R)	5.67	Yes
	2) Hot brake	Evaluative	10	10 (R)	5.74	Yes
b)	Maximum force exerted on the brake pedal to achieve a deceleration of 2.5 m/s ² , (N)	Evaluative	600	600 (R)	269 to 334	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 (R)	Yes	Yes
17.1.5 Noise measurement:						
a)	Maximum ambient noise emitted by the tractor, dB(A)	Evaluative	As per CMVR	88 (R)	85	Yes
b)	Maximum noise at operator's ear level, dB(A)	Evaluative	As per CMVR	96 (R)	94	Yes
17.1.6 Amplitude of mechanical vibrations at:						
	1) Left foot rest	Non Evaluative	100 microns (max)	100 (R)	190	No
	2) Right foot rest			100 (R)	190	No
	3) Seat (with driver seated)			100 (R)	30	Yes
	4) Steering wheel			100 (R)	40	Yes
17.1.7 Air cleaner:						
	Air cleaner oil pull over, (%)	Non Evaluative	0.25 % (maximum)	0.25 % (maximum)	2.30	No
17.1.8 Haulage requirements:						
a)	Gross mass of the trailers, (tones):					
	1) Two wheel	Non Evaluative	--	5.0 (D)	5.0	Yes
	2) Four wheel	Evaluative	--	6.0 (D)	6.0	Yes
b)	Distance travelled / litre of fuel consumption, (km/l):					
	1) Two wheel	Non Evaluative	--	5.35 to 5.75 (D)	3.76 to 3.94	No
	2) Four wheel		--	5.20 to 5.65 (D)	3.85 to 4.04	No



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1	2	3	4	5	6	7	
c)	Fuel consumption, (ml/km/tonne):						
	1)	Two wheel	Non Evaluative	--	36.0 to 45.0 (D)	51 to 53	No
	2)	Four wheel		--	35.0 to 40.0 (D)	41 to 43	No
17.1.9	Wetland cultivation (Puddling Operation):						
	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	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 Part 2)	--	Meets the requirement	Yes	
b)	Lighting arrangement	Evaluative	As per CMVR	--	Meets the requirements	Yes	
c)	Seating requirements (Tractors having more than 1150 mm track width)	Non Evaluative	Should meet the requirements of IS 12343 (as amended from time to time)	--	Does not meet the requirement	No	
d)	Technical requirements for PTO shaft	Non Evaluative	Should meet the requirements of IS 4931 (as amended from time to time)	--	Meets the requirements	Yes	
e)	Dimensions of three point linkage	Non Evaluative	Should meet the requirements of IS 4468 (Part 1) (as amended from time to time)	--	Does not meet the requirement	No	
f)	Specifications of linkage drawbar	Non Evaluative	Should meet the requirements of IS 12953 (as amended from time to time)	--	Meets the requirements	Yes	
	Specifications of swinging drawbar	Non Evaluative	Should meet the requirements of IS 12362 (Part 3) (as amended from time to time)	--	Not provided	NA	



1	2	3	4	5	6	7
17.1.11	Labeling of tractors (Provision of labeling plate):					
	1) Make	Evaluative	Should conform to the requirements of CMVR	--	TAFE	Yes
	2) Model	Evaluative		--	MF 5245 DI 4WD	Yes
	3) Year of manufacture	Evaluative		--	2015	Yes
	4) Engine serial number	Evaluative		--	SJ327500 29	Yes
	5) Chassis number	Evaluative		--	MEA4DF5F FF3000036	Yes
	6) Declaration of PTO power, (kW)	Evaluative		--	33.7	Yes
17.1.12	Discard limit for:					
(a)	Cylinder bore diameter, (mm)	Evaluative	To be specified by the manufacturer and supported by printed literature.	95.18	95.01 to 95.04	Yes
(b)	Clearance between piston & cylinder liner at skirt, (mm)	Non Evaluative		0.180	0.128 to 0.156	Yes
(c)	Ring end gap (mm):					
	- Top comp. ring.	Evaluative	-do-	1.50	0.40 to 0.45	Yes
	- 2 nd comp. ring.		-do-	1.50	0.90 to 0.95	Yes
	- Oil ring.		-do-	1.50	0.50 to 0.55	Yes
(d)	Ring groove clearance (mm):					
	- Top comp. ring.	Evaluative	-do-	0.25	Tapper face	--
	- 2 nd comp. ring.		-do-	0.25	0.063 to 0.080	Yes
	- Oil ring.		-do-	0.25	0.055 to 0.063	Yes
(e)	Clearance of main bearings (mm):					
	- Diametrical clearance	Evaluative	-do-	0.75	0.103 to 0.154	Yes
	- Crankshaft end float	Evaluative	-do-	0.75	0.25	Yes
(f)	Clearance of big end bearings, (mm):					
	- Diametrical	Evaluative	-do-	0.75	0.064 to 0.127	Yes
	- Axial	Evaluative	-do-	0.75	0.25	Yes
(g)	Clearance between king pin and bush, (mm)	Non Evaluative	-do-	0.35	0.035 to 0.060	Yes
(h)	Clearance between center pin and bush, (mm)	Non Evaluative	-- do--	1.25	0.011 to 0.163	Yes



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1	2	3	4	5	6	7
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 CATEGORY OF BREAKDOWNS / DEFECTS :					
1	2	3	4	5	6
S. No.	Characteristic	Category (Evaluative / Non Evaluative)	Requirements as per IS: 12207-2014	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.	Two (Mn28 & Mn13))	Yes
4.	Total breakdowns	Evaluative	In no case, the total number of breakdowns should exceed five, that is, (2 major + 3 minor) or 5 minor breakdowns.	Two (Mn28 & Mn13)	Yes

17.2 Optional requirements as per Clause-4 (Table-2) of IS:12207-2014:				
S. No.	Characteristic	Requirements as per IS: 12207-2014	As observed	Whether meets the requirements (Yes/No.)
1	2	3	4	5
1.	Fitment of ROPS	With a provision for fitment of ROPS.	Provided	Yes
		If ROPS fitted it should meet the requirement of IS: 11821-1992.	ROPS not fitted	Not applicable
2.	Accessories	Trailer hitch, front tow hook may be provided.	Trailer hitch is provided	Yes
			Front tow hook is provided	Yes

17.3 Conformity with following IS:

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



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- | | | | | |
|--|-------|--|---|-------------------------|
| 7 | v) | Agricultural tractors - Operator's seat technical requirement [IS 12343 -1998 (First revision) (Re-affirmed in March, 2009)] | : | Does not conform |
| Yes | | | | |
| Yes | vi) | Guide for safety & comfort of operator of agricultural tractors: Part 1 General requirements (first revision): [IS 12239 (PT-1) 1996 (Reaffirmed in February, 2012)/ISO 4254-1:1989] | : | Does not conform |
| Yes | | | | |
| 6 | vii) | Tractors and machinery for agriculture and forestry, powered lawn and garden equipment – Symbols for operator controls and other displays [IS: 6283 (Part-1) – 2006 (Reaffirmed in March, 2009) and IS: 6283 (Part-2)-2007 (Reaffirmed in March, 2009)]/ISO 3767-2:1991] | : | Does not conform |
| Whether meets the requirements (s/No.) | | | | |
| Yes | viii) | Tractors and machinery for agriculture and forestry – Technical means for ensuring safety Part 2: Tractors (first revision) [(IS 12239 (PT-2) 1999) (Re-affirmed in March, 2009)] | : | Does not conform |
| Yes | | | | |
| Yes | ix) | Guide lines for location and operation of operator controls on agricultural tractors and machinery (first revision) (IS: 8133 – 1983) (Re-affirmed in March, 2009) | : | Conforms |
| Yes | | | | |
| Yes | x) | Agricultural Tractor & Machinery Lighting device for travel on public roads (IS: 14683-1999) (Re-affirmed in March, 2009) | : | Conforms |

17.4 Salient Observations:

17.4.1 Laboratory tests:

17.4.1.1 PTO Performance:

- i) The maximum PTO power was observed as 33.3 kW against the declaration of 33.7 kW which meets the requirement of IS: 12207-2014 with regard to tolerance limit.
- ii) The specific fuel consumption corresponding to maximum power was recorded as **247 g/kWh** against the declaration of **265 g/kWh**, which is within the tolerance limit of IS: 12207-2014.
- iii) The backup torque is **20.68 %**.
- iv) The maximum PTO power drop at natural and higher ambient condition was recorded as 6.61% which should be checked for necessary corrective action.

17.4.1.2 Drawbar performance:

- i) During drawbar performance ten hours test, the rear LHS tyre got punctured due to excessive tyre creeping of 70 mm over rim. The rear RHS tube was replaced with new one. This calls for the necessary improvement in the rear wheel rim.
- ii) The creeping of LHS tyre and RHS tyre over rim was recorded as 15 mm & 30 mm in only 5.0 hours drawbar performance test at 15% wheel slip. This should be looked into for necessary corrective action.

17.4.1.3 Hydraulic Performance:

The malfunctioning of control valves was noticed during the test which calls for necessary improvement in hydraulic system.



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17.4.1.4 Mechanical Vibration:

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

17.4.1.5 Air cleaner oil pull over, (%)

The Air cleaner oil pull over was recorded as 2.3% against the maximum limit of 0.25 % which calls for the necessary improvement in the air intake system of the tractor.

17.4.1.6 Haulage requirements:

- i) With 2 wheels trailer maintaining the gross mass of 5.0 tonnes ,engine stalling was observed during the haulage test. The problem was rectified by the adjustment of the position control lever. Which calls for the necessary improvement in the hydraulic system and load bearing behavior of the tractor for haulage .
- ii) The Fuel consumption was measured as 50.8 to 53.2 & 41.3 to 43. ml/km/tonne for 2wheel and 4 wheels respectively and higher than the declaration .this should be looked into for necessary correction.
- iii) It was observed that when front CI ballast mounted at the front bumper ,operator could not open the bonnet completely. The inspection of the engine like water level in the radiator could not be inspected easily .Hence it is recommended for changing the design of the front CI ballast weight for easy inspection of the engine during road work.

17.4.1.7 Three point linkage:

The width of ball of lower hitch points and the lateral distance from lower hitch point to centre line of tractor does not meet the requirement of IS: 4468 (Part-1) -1997. This should be looked into for necessary corrective action.

17.4.1.6 Technical Requirements for Power Take Off Shaft:

The master shield for Power take off shaft has not been provided as per the requirement of IS: 12953-1995. This should be looked into for necessary corrective action.

17.4.1.7 Operator's Seat:

- i) The length and width of seat from seat index point.
 - ii) Longitudinal distance from seat index point to centre of steering control wheel.
 - iii) Vertical distance of seat index point from foot rest and outer brake pedal.
- The above parameters does not meet the requirement of IS: 12343-1998. This should be looked into for necessary corrective action.

17.4.2 Field performance test:

17.4.2.1 Wet land cultivation (Puddling operation):

No ingress of water/or mud in various assemblies/components was noticed during wetland cultivation of tractor. Hence, it meets the requirements of IS: 11082-1986 (technical requirements of agricultural tractors for wetland operation). The tractor is found suitable for wetland operation (Puddling).

17.4.3 Component assembly inspection

The backlash between the crown wheel and bevel pinion was measured as 0.5 against the discard limit of 0.50 mm which should be looked into for corrective necessary action.

17.5 Maintenance / Service Problems:

All noticeable maintenance or service problems observed during the test are explained in chapter 16.

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

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

- i) Provision for spark arresting device in exhaust system.
- ii) Provision of PTO shaft master shield.

17.7 Adequacy of Literature supplied with machine:**17.7.1** The following literature was supplied with the tractor for reference:

- i) Operator's Instruction Book
- ii) Parts Book
- iii) Workshop Service Manual

17.7.2 The operator's manual may be revised as per IS: 8132-1999 with the inclusion of, inter alia, the following:

- i) The oil capacity of the brake system is found common with the transmission system while in the technical specification it was mentioned as "NA". This should be looked into before submitting the technical specifications.
- ii) As per technical specification the load carrying capacity of front tyres is 900 kgf at 280 kPa and for rear it is 2120kgf at 230kPa, while its inflation tyre pressure for transport is specified as 216 kPa & 110kPa respectively. This should be looked into while submitting the technical details of the tractor and correct load carrying capacity should be in the printed literatures. The same is to be with rear tyre and it should be

17.7.3 The printed literature supplied with the test sample is in English. The literature may be brought out as per IS: 8132-1999 (Reaffirmed in March, 2009) for the guidance of user and service personnel in national as well as other regional languages.**18. CITIZEN CHARTER**

Time frame for Testing & Evaluation as per Citizen Charter	Duration of test	Whether the report is released within the time frame given in the Citizen Charter	Remark
10 Months	13 Months (December, 2015 to December , 2016)	No	Due to occurrence of breakdowns in various tests

TESTING AUTHORITY:

NITESH KUMAR VERMA
AGRICULTURAL ENGINEER

C. V. CHIMOTE
TEST ENGINEER

Y. K. RAO
SENIOR AGRICULTURAL
ENGINEER

J.J.R. NARWARE
DIRECTOR



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19. APPLICANT'S COMMENTS

Para No.	Our Reference	Applicant's comments
19.1	Clause no. 17.3(iii),(v),(vi),(vii),(viii)	We shall study and initiate to incorporate in production.
19.2	17.4.1.3,17.4.1.4,17.4.1.5,17.4.1.1.6, 17.4.1.7, 17.4.3, 17.6,17.7.2	We shall study and initiate to improve in production.

ANNEXURE

BRIEF SPECIFICATION OF IMPLEMENTS USED DURING FIELD TEST

Sl. No.	Item	Disc Plough	Rotavator
1.	Make	Mahindra & Mahindra	Kubota Japan
2.	Type	Mounted	Mounted
3.	No. of bottom / blades/discs	2	36 (in 7 flanges)
4.	Type of bottom / blades/discs	Plain concave	Hatchet
5.	Size of bottom / blade/disc, (mm)	620	240 x 65 x 8
6.	Spacing of bottom/blade/disc, (mm)	520	200
7.	Lower hitch point span, (mm)	635	665
8.	Mast height, (mm)	470	410
9.	Overall dimensions, (mm):		
	- Length	1520	2000
	- Width	1190	870
	- Height	1010	1070
10.	Gross mass, (kg)	305	310

ANNEXURE

BRIEF SPECIFICATION OF HALF CAGE WHEELS

Sl No.	Items	Specification
1.	Type	Full cage wheel
2.	Outer diameter , (mm)	1280
3.	Width, (mm)	850
4.	No. and types of lugs	24, Straight lugs made of M.S. angle section welded to angle iron frame
5.	Size of angle section, (mm)	50 x 50 x 6
6.	Length of lug, (mm)	425
7.	Spacing of lug, (mm)	160
8.	Weight of each cage wheels, (kg)	150



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ANNEXURE-III**TRACTOR RUN HOURS DURING TEST**

A.	LABORATORY AND TRACK TESTS:	HOURS
1.	Running-in	--
2.	PTO performance test	12.93
3.	Power lift and hydraulic pump performance test	2.05
4.	Drawbar performance test	18.74
5.	Turning ability	0.30
6.	Location of centre of gravity	0.20
7.	Operator's field of vision	Nil
8.	Brake test	2.0
9.	Noise measurement	1.67
10.	Air cleaner oil pull over test	4.0
11.	Mechanical vibration test	1.0
12.	Theoretical speed test	1.09
B.	FIELD TEST:	
1.	Disc ploughing	10.25
2.	Rotavation	10.17
3.	Wetland cultivation (including water proof)	15.07
C.	HAULAGE TEST:	5.78
D.	Miscellaneous test and other run hours including idle run, transportation, trials and preparation for test	11.65
	TOTAL:	96.9