



**TAFE, MF 9500 2WD TRACTOR**  
(8 + 8 Speed Gear Box)



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**

(An ISO : 9001 - 2008 Certified Institute)

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<b>T-1025/1549/2016</b>	<b>TAFE, MF 9500 2WD TRACTOR (8+8 Speed Gearbox) - Commercial (Initial)</b>
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**Manufacturer** : **M/s. Tractors and Farm Equipment Limited, Post Box No. 3302, 35 Mahatma Gandhi Road, Nungambakkam, Chennai-600 034.**

Location of other manufacturing plants (apa) : **M/s. Tractors and Farm Equipment Limited, Kalladipatti Plant, 10/205, Kalladipatti (P.O.), Pin code - 624 201 Dindigul disti.,Tamilnadu**  
: **M/s. Tractors and Farm Equipment Limited, Doddaballapur Plant, Plot No. 1, Kiadb Industrial Estate Doddaballapur Bangalore - 561 203**

Test requested by (applicant) : **M/s. Tractors and Farm Equipment Limited, Post Box No. 3302, 35 Mahatma Gandhi Road, Nungambakkam, Chennai-600 034.**

Selected for test by : **Applicant**

Place of running-in : **At applicant's works**

**Duration of said running-in (h):**

- Engine : 12

- Transmission : 16

**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

Model : MF 9500 2WD

Variants, if any : Yes

Sl. No.	Variant Model*	Variant Features
i)	MF9500V2	Same configuration with TSJ 327 – F19 (Earlier TSJ 327- F8) + 8+2 Gear Box + H/L Gear shifting lever provided in LH side and Gear selection shifting lever provided in RH side + Telematics system (or GPS System)

**\*The variant model yet to be submitted for test verification at this institute**

Brand name : None

Type : Four wheeled, Rear wheel drive (2WD), General Purpose, Agricultural Tractor

Year of manufacture : GE (i.e. it means July,2014)

Chassis number : MEA99E83GE300025

Country of Origin : INDIA

**1.2 Engine:**

Make : M/s. SIMPSONS & Co. Ltd.

Model : TIII A TSJ 327-F19

Type : Four stroke, water cooled, direct injection, turbo charged, diesel engine.

Serial number : TSJ 327 48496

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### 15. ADJUSTMENTS, DEFECTS, BREAKDOWNS AND REPAIRS

S. No.	Adjustment/ Defects/ breakdowns and Repairs	Category of breakdown	Tractor run hours
1.	During hydraulic lift load maintenance test the lift dropped up to ground level. The o-ring of hydraulic ram cylinder (part no. 3761473M01) and oil seal (part no. 3761476M01) were found damaged and then replaced with new one.	Mn-20 & Mn-21	20.3

### 16. SUMMARY OF OBSERVATIONS, COMMENTS & RECOMMENDATIONS

**16.1** Evaluative (mandatory) / Non-evaluation (Non-mandatory) parameters 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
<b>16.1.1</b>	<b>PTO Performance :</b>					
<b>a)</b>	Maximum power under 2 h test, (kW) (Natural ambient condition)	Evaluative	Declared value to be achieved with a tolerance of: -5 / +10% for PTO power >26 kW. -7.5/+10% for PTO power ≤ 26 kW or -5 / +10% for Engine power >26 kW. -7.5/+10% for Engine power ≤ 26 kW	39.0 (D)	40.9	Yes
<b>b)</b>	Power at rated engine speed, (kW)	Non Evaluative	-do-	39.0 (D)	40.9	Yes
<b>c)</b>	Specific fuel consumption corresponding to maximum power, (g/kWh)	Non Evaluative	+ 5%	265 (D)	252	Yes
<b>d)</b>	Maximum equivalent crankshaft torque, (Nm)	Non Evaluative	± 8%	230 (D)	257.8	<b>No</b>
<b>e)</b>	Back-up torque, percent	Non Evaluative	10 percent, minimum	Above 10 %,	45.3	Yes
<b>f)</b>	<b>Maximum operating temperature (°C):</b>					
	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)	127	Yes

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1	2	3	4	5	6	7
	2) Coolant	Evaluative	The declared value should not exceed the boiling temperature of coolant under the pressurized or otherwise and the observed value under high ambient condition should not exceed the declaration.	110 (D)	107	Yes
<b>g)</b>	Engine oil consumption, (g/kWh)	Evaluative	Not exceeding 1% of SFC at maximum power under High ambient conditions.	2.55	0.12	Yes
<b>h)</b>	Smoke level (per meter )	Evaluative	Maximum light absorption coefficient of 3.25 per metre or equivalent BOSCH No. 5.2 or 75 Hatridge value (As per CMVR)	5.2 BOSCH No	0.51	Yes
<b>16.1.2</b>	<b>Drawbar performance :</b>					
<b>a)</b>	Maximum drawbar pull with ballast corresponding to 15 percent wheel slip, (kN)	Non Evaluative	Minimum 65% of static mass with ballast	26.75 (D) 17.28 (R)	22.66	Yes
<b>b)</b>	Maximum drawbar pull with standard ballast corresponding to 15 percent wheel slip, (kN)	Evaluative	Minimum 65% of static mass of tractor without ballast or with standard ballast as the case may be.	19.4 (D) 15.43 (R)	19.63	Yes
<b>c)</b>	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.	33.2 (D) 32.7 (R)	34.6	Yes
<b>d)</b>	Maximum transmission oil temperature (°C)	Non Evaluative	The declared value should not exceed the maximum value specified by oil company	132 (D)	88	Yes
<b>16.1.3</b>	<b>Power lift and hydraulic pump performance :</b>					
<b>a)</b>	Maximum lifting capacity throughout the range of lift, (kN):					
	1) At hitch points	Non Evaluative	To be declared by manufacturer [Tolerance of minus 10%]	13.50(D)	15.49	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 and it should be 16 kg/engine hp where the tractor is not provided with a PTO shaft	12.00 (D) 9.62 (R)	14.66	Yes
<b>b)</b>	Maximum drop in the height of the point of application of the force after each 5 minutes interval for a total duration of 30 minute, (mm)	Non Evaluative	Observed value should not exceed 50 mm.	50 mm	88	No

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1	2	3	4	5	6	7	
<b>16.1.4</b>	<b>Brake performance at 25 kmph:</b>						
<b>a)</b>	Maximum stopping distance at a force, equal to or less than 600 N on brake pedal with road ballast, (m):						
	1)	Cold brake	Evaluative	10	10 (R)	6.62	Yes
	2)	Hot brake	Evaluative	10	10 (R)	6.60	Yes
<b>b)</b>	Maximum force exerted on the brake pedal to achieve a deceleration of 2.5 m/s <sup>2</sup> (N).	Evaluative	600	600 (R)	270 to300	Yes	
<b>c)</b>	Whether parking brake is effective at a force of 600 N at foot pedal(s) or 400 N at hand lever.	Evaluative	Yes / No	Yes	Yes	Yes	
<b>16.1.5</b>	<b>Noise measurement :</b>						
<b>a)</b>	Maximum ambient noise emitted by the tractor dB(A)	Evaluative	As per CMVR	88 (R)	82	Yes	
<b>b)</b>	Maximum noise at operator's ear level dB(A)	Evaluative	As per CMVR	96 (R)	93	Yes	
<b>16.1.6</b>	<b>Amplitude of mechanical vibrations at :</b>						
	1)	Left foot rest	Non Evaluative	100 microns (max)	100 (R)	170	<b>No</b>
	2)	Right foot rest			100 (R)	160	<b>No</b>
	3)	Seat (with driver seated)		-do-	100 (R)	30	Yes
	4)	Steering wheel		-do-	100 (R)	60	Yes
<b>16.1.7</b>	<b>Haulage requirements :</b>						
<b>a)</b>	Gross mass of the trailers, (tones):						
	1)	Two wheel	Non	--	5.0 (D)	5.0	Yes
	2)	Four wheel	Evaluative	--	6.0 (D)	6.0	Yes
<b>b)</b>	Distance travelled / litre of fuel consumption, (km/l):						
	1)	Two wheel	Non	--	5.35 to 5.75 (D)	5.70 to 6.00	Yes
	2)	Four wheel	Evaluative	--	5.20 to 5.60 (D)	5.71 to 6.32	Yes
<b>c)</b>	Fuel consumption (ml/km/tonne):						
	1)	Two wheel	Non	--	36 to 45 (D)	37.7 to 39.2	Yes
	2)	Four wheel	Evaluative	--	35 to 40 (D)	32.2 to 34.7	Yes
<b>16.1.8</b>	<b>Wetland cultivation :</b>						
	Sealing for the following assemblies:	Evaluative	<b>The identified assemblies should essentially meet the requirement of IS: 11082. No water ingress in the identified assembly given in column-2.</b> 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 mud and / or water was observed	Yes	
	1)	Clutch assembly					-do-
	2)	Brake housings					-do-
	3)	Front axle hubs					-do-
	4.	Engine oil					-do-
	5.	Transmission oil	-do-				

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1	2	3	4	5	6	7
<b>16.1.9</b>	<b>Safety features :</b>					
a)	Guards against moving and hot parts	Evaluative	Belt drives, pulley, silencer, hydraulic pipes (As per IS 12239 (part 2))	Meets the requirement		Yes
b)	Lighting arrangement	Evaluative	As per CMVR	Meets the requirement		Yes
c)	Seating requirements	Non Evaluative	Should meet the requirements of IS 12343 (as amended from time to time)	<b>Does not Meet the requirement</b>		<b>No</b>
d)	Technical requirements for PTO shaft	Non Evaluative	Should meet the requirements of IS 4931 (as amended from time to time)	<b>Does not Meet the requirement</b>		<b>No</b>
e)	Dimensions of three point linkage	Non Evaluative	Should meet the requirements of IS 4468 (part 1) (as amended from time to time)	<b>Does not Meet the requirement</b>		<b>No</b>
f)	Specifications of linkage drawbar	Non Evaluative	Should meet the requirements of IS 12953 and IS 12362 (part 3) (as amended from time to time)	Meets the requirement		Yes
g)	Specifications of swinging drawbar	Non Evaluative		Not provided		<b>NA</b>

16.1.10	<b>Labelling of tractors (Provision of labelling plate):</b>						
	1)	Make	Evaluative	Should conform to the requirements of CMVR	--	TAFE	Yes
	2)	Model	Evaluative		--	MF 9500 2WD	Yes
	3)	Year of manufacture	Evaluative		--	GE (July, 2014)	Yes
	4)	Engine serial number	Evaluative		--	TSJ 32748496	Yes
	5)	Chassis serial number	Evaluative		--	MEA99E83GE3000 025	Yes
	6)	Declaration of PTO power, (kW)	Evaluative		--	39.0	Yes

16.1.11	<b>Discard limit for:</b>						
(a)	Cylinder bore diameter, (mm)	Evaluative	To be specified by the manufacturer and supported by printed literature	95.202	95.01 to 95.02	Yes	
(b)	Clearance between piston & cylinder liner at skirt, (mm)	Non Evaluative		0.25 with new ring	0.124 to 0.135	Yes	
(c)	<b>Ring end gap (mm):</b>						
	-	Top comp. ring.	Evaluative	To be specified by the manufacturer and supported by printed literature	1.50	0.45 to 0.50	Yes
	-	2 <sup>nd</sup> comp. ring.		-do-	1.50	1.00 to 1.15	Yes
	-	Oil ring.		-do-	1.50	0.45 to 0.50	Yes
(d)	<b>Ring groove clearance (mm):</b>						
	-	Top comp. ring.	Evaluative	-do-	-Tapered-	Yes	
	-	2 <sup>nd</sup> comp. ring.		-do-	0.25	0.068 to 0.075	Yes
	-	Oil ring.		-do-	0.25	0.058 to 0.067	Yes

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1	2	3	4	5	6	7
<b>(e)</b>	<b>Clearance of main bearings (mm):</b>					
	- Diametrical clearance	Evaluative	-do-	0.75	0.101 to 0.143	Yes
	- Crankshaft end float	Evaluative	-do-	0.75	0.25	Yes
<b>(f)</b>	<b>Clearance of big end bearings, (mm):</b>					
	- Diametrical	Evaluative	-do-	0.75	0.101 to 0.126	Yes
	- Axial	Evaluative	-do-	0.75	0.25 to 0.30	Yes
<b>(g)</b>	Clearance between king pin and bush, (mm)	Non Evaluative	-do-	0.35	0.13 to 0.18	--
<b>(h)</b>	Clearance between center pin and bush, (mm)	Non Evaluative	-do-	1.25	0.1 to 0.18	Yes

16.1.12	<b>Literature (Submission to test agency)</b>					
<b>(a)</b>	Operator manual	Evaluative	Provided/Not Provided	As per relevant IS Code (IS 8132)	Provided	Yes
<b>(b)</b>	Parts Catalogue	Evaluative	Provided/Not Provided	As per relevant IS Code (IS 8132)	Provided	Yes
<b>(c)</b>	Workshop/ Service manual	Evaluative	Provided/Not Provided	As per relevant IS Code (IS 8132)	Provided	Yes

16.1.13	<b>CATEGORY OF BREAKDOWNS / DEFECTS :</b>				
S. No.	Characteristic	Category (Evaluative / Non Evaluative)	Requirements as per IS: 12207-2008	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.	<b>Two (Mn-20 &amp; 21)</b>	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.	<b>Two</b>	Yes

16.2	<b>Optional requirements as per Clause-4 (Table-2) of IS:12207-2014:</b>			
S. No.	Characteristic	Requirements as per IS: 12207-2014	As observed	Whether meets the requirements (Yes/No.)
1	2	3	4	5
1.	Air cleaner oil pull over (%).	0.25% (maximum)	Dry type air cleaner is provided	NA
2.	Fitment of ROPS	With a provision for fitment of ROPS.	Provided	<b>Yes</b>
		If ROPS fitted it should meet the requirement of IS: 11821-1992.	ROPS not fitted	Not applicable
3.	Accessories	Trailer hitch, front tow hook, linkage drawbar may be provided.	Meets the requirements	Yes

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**16.3 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 - 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 March, 2009)] : Conforms
- iv) Drawbar for agricultural tractors – Link type [IS 12953:1990 (Reaffirmed in March, 2007)] : Conforms
- v) Agricultural tractors - Operator’s seat technical requirement [IS 12343 –1998 (First revision) (Reaffirmed in March, 2009)] : **Does not conform**
- vi) Guide for safety & comfort of operator of agricultural tractors: Part 1 General requirements (first revision) : [IS 12239 (PT-1) 1996/ISO 4254-1:1989 (Reaffirmed in (Reaffirmed in March, 2007))] : **Does not conform**
- vii) Tractors and machinery for agriculture and forestry, powered lawn and garden equipment – Symbols for operator controls and other displays [IS: 6283 (Part-1 & Part-2) –2006 & 2007 (Reaffirmed in March, 2009)]/ ISO 3767-2:1991] : **Does not conform**
- viii) Tractors and machinery for agriculture and forestry – Technical means for ensuring safety Part 2: Tractors (first revision) (IS 12239 (PT-2) 1999) (Reaffirmed in March, 2009)] : **Does not conform**
- ix) Guide lines for location and operation of operator controls on agricultural tractors and machinery (first revision) (IS: 8133 – 1983) (Reaffirmed in March, 2009)] : Conforms
- x) Agricultural Tractor & Machinery Lighting device for travel on public roads (IS: 14683-1999) (Reaffirmed in March, 2009)] : Conforms

**16.4 Salient Observations:**

**16.4.1 Laboratory tests:**

**16.4.1.1 PTO Performance:**

- i) The backup torque is **45.3%**.
- ii) The specific fuel consumption corresponding to maximum power was measured as **252g/kWh** against the declaration of **265 g/kWh**, which is within the tolerance limit of IS: 12207-2014.
- iii) The maximum equivalent crankshaft torque was measured as **257.8 Nm** against the declaration of **230 Nm**, which is 12.1% higher and does not meet the tolerance limit of IS: 12207-2014. This should be looked into for necessary corrective action.



**16.4.1.2 Drawbar performance:**

The creeping of tyre over rim on LHS & RHS wheel of tractor was found 30 mm and 50 mm respectively during 10 hours drawbar performance test. This should be looked into for necessary corrective action.

**16.4.1.3 Hydraulic performance:**

- i) During lift load maintenance test, the lower links dropped within 25 minutes to ground level. The "O"-ring (part no. 3761473M01) (Mn-20) of ram cylinder and oil seal (part no. 3761476M01) (Mn-21) was found damaged and then replaced with new one. These breakdowns are considered as pre-mature and calls for necessary improvement in the quality of "O" rings & oil seals of the system.
- ii) The moment about rear axle with standard frame was computed as **22.36 kN-m**. Whereas, the moment about front axle was computed as **18.94 kN-m**. The moment about rear axle is on higher side as compared to the moment about front axle. It is, therefore, recommended that the lifting capacity of the hydraulic system may be reduced suitably or additional ballast mass may be provided at front axle to avoid the front lifting of the tractor.

**16.4.1.4 Mechanical Vibration:**

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

**16.4.1.5 Three point linkage:**

Transport height meets to Cat.I while the others parameters of three point linkages meet to the Cat.II. the requirement of IS 4468 (Part-I): 1997. This should be looked into for necessary corrective action.

**16.4.1.6 Operator's Seat:**

Width of seat, Vertical distance from seat index point to centre of clutch and brake pedals and longitudinal distance from seat index point to centre of differential lock pedal does not meet the requirements of IS: 12343:1998 (Re-affirmed in March, 2009) and calls for necessary corrective action.

**16.4.1.7 Labelling plate**

The specific fuel consumption was mentioned on labelling is 195 g/kWh, whereas it was declared as 265 g/kWh in specification submitted by applicant. This should be looked into for necessary corrective action.

**16.4.2 Field performance test:****16.4.2.1 Wet land cultivation (Puddling operation):**

No ingress of mud/or water was noticed during puddling operation of the tractor. Hence, It meets the requirements of IS:11082-1984 (Technical requirements of agricultural tractors for wetland operation). The tractor is found suitable for wetland operation (Puddling).

**16.5 Maintenance / Service Problems:**

No noticeable maintenance or service problem was observed during the test

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

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

- i) Provision of spark arrester in the exhaust system.
- ii) Provision of vertical retainers on both sides of foot step and clutch pedal.
- iii) Provision of PTO master shield.
- iv) The rear tyres should be fully guarded.
- v) The working clearance around hydraulic system position and draft control levers should be provided as per the requirement of relevant Indian Standard.
- vi) The battery is located closed to the operator's work place & should be re-located to avoid exposure of fumes and electrolyte to the operator.
- vii) Attachment for coupling of trailer brakes should be provided.

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

**16.7.1** The following literature was been supplied with the tractor for reference during the testing.

- i) Operator's instruction book
- ii) Operators instruction book - II
- iii) Spare part's catalogue
- iv) Service manual

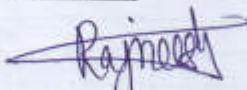
**16.7.2** The supplied literature was found adequate, however, The servicing schedule of various systems time to time specified on operator's manual and specifications data provided by applicant does not match to each other and the diagram of transmission clutch plate does not match with actual type of service manual.

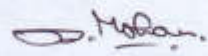
**16.7.3** These literatures may also be brought out in national & other regional languages for the guidance of user's and service personnel.

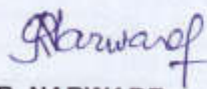
**17. CITIZEN CHARTER**

Time frame for Testing & Evaluation as per Citizen Charter	Duration of Test	Whether the Test Report is released within the time frame given in Citizen Charter	Remarks
10 Months	11 Months (August, 2015 to May, 2016)	No	Delay due to occupation of PTO Test bed

**TESTING AUTHORITY:**

  
**RAJNEESH PATEL**  
AGRICULTURAL ENGINEER

  
**R.M TIWARI**  
SENIOR AGRICULTURAL ENGINEER

  
**J.J.R. NARWARE**  
DIRECTOR

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### 18. APPLICANT'S COMMENTS

Para No.	Our Reference	Applicant's comments
<b>18.1</b>	16.3 (v, vi, vii, viii), 16.4.1.2, 16.4.1.3 (i) & (ii), 16.4.1.4, 16.4.1.5, 16.4.1.6 & 16.7.2	We will look into for corrective action.
<b>18.2</b>	16.6	We will look in to for implementation of these safety features.

### ANNEXURE- I

### BRIEF SPECIFICATION OF IMPLEMENTS USED DURING FIELD TEST

S. No.	Particular	M.B. Plough	Rotavator
1	Make	Fieldking	Shaktimaan
2	Type	Mounted	Mounted
3	No. of Bottoms/Blades	Three	38 in 9 flanges
4	Type of Bottom/Blades	General purpose	L-Shaped
5	Size of Bottoms/Blades (mm)	250	260 x 80 x 8
6	Spacing of bottoms/Flanges, (mm)	510	250
7	Lower hitch point span, (mm)	825	840
8	Mast height, (mm)	570	600
9	Overall Dimensions (mm):		
	Length	2010	2260
	Width	1385	1150
	Height	1200	1110
10	Gross Mass, (Kg)	350	530

### ANNEXURE-II

### BRIEF SPECIFICATION OF FULL CAGE WHEEL

S. No.	Items	Specification
1	Type	Full cage wheel
2	Outer dia. (mm)	1170
3	Width (mm)	900
4	No. & Type of Lugs	24, straight lugs made of MS angle section welded to angle iron frame
5	Size of angle section, (mm)	50 x 40 x 5
6	Length of lug, (mm)	440
7	Spacing of lug, (mm)	310
8	Weight of each cage wheel (kg)	160

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**ANNEXURE-III**

**TRACTOR RUN HOURS DURING TEST**

<b>A.</b>	<b>LABORATORY AND TRACK TESTS:</b>	<b>HOURS</b>
1.	Running-in	--
2.	PTO performance test	14.28
3.	Power lift and hydraulic pump performance test	0.92
4.	Drawbar performance test	14.11
5.	Turning ability	0.40
6.	Location of centre of gravity	Nil
7.	Operator's field of vision	Nil
8.	Brake test	2.75
9.	Noise measurement	1.33
10.	Mechanical vibration test	1.00
11.	Theoretical speed test	1.00
<b>B.</b>	<b>FIELD TEST:</b>	
1.	Disc ploughing	10.00
2.	Rotavation	10.17
3.	Wetland cultivation (including water proof)	15.00
<b>C.</b>	<b>HAULAGE TEST:</b>	5.48
<b>D.</b>	Miscellaneous test and other run hours including idle run, transportation, trials and preparation for test	14.05
	<b>TOTAL:</b>	90.49