

व्यावसायिक परीक्षण रिपोर्ट
COMMERCIAL TEST REPORT
(Supplementary Test)

सख्या / No. : T-1012/1536/2016
माह / Month : March, 2016



**INTERNATIONAL TRACTORS LIMITED, SONALIKA INTERNATIONAL DI-20
GARDENTRAC 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

(An ISO : 9001 - 2008 Certified Institute)

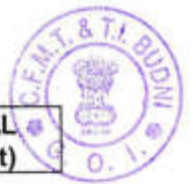
Tractor Nagar, Budni (M.P.) 466 445

E-mail fmti-mp@nic.in

Website : <http://cfmtti.dacnet.nic.in>

Telephone : 07564 - 234729

Fax : 07564 - 234743



T- 1012/1536/2016

INTERNATIONAL TRACTORS LIMITED, SONALIKA INTERNATIONAL
DI-20 GARDENTRAC TRACTOR - Commercial (Supplementary Test)

Manufacturer : M/s. International Tractors Ltd.
Village - Chak Gurjan,
P.O.- Piplanwala, Jalandhar road,
Distt. HOSHIARPUR -146022
(PUNJAB)

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

Duration of said running-in (h):
- Engine : 35
- Transmission : Nil

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

2. FUEL AND LUBRICANTS

2.1 Fuel : The High-speed diesel oil supplied by M/s Indian Oil Corporation Limited having density of 0.836 g/cc at 15°C was used.

2.2 Lubricants:

S. No.	Particulars	As recommended by the manufacturer	As used during the test
1.	Engine oil	SAE 20W40	SAE 20W40
2.	Transmission, differential Rear axle front axle, brake, steering & hydraulic systems	15W40	15W40
3.	Grease	EP 80	Oil originally filled in the tractor was not changed
4.	Coolant	EP 80	-do-

3. ESSENTIAL TESTS

3.1 SPECIFICATIONS

3.1.1 Tractor:	Previous sample	Present sample
Make	:	International Tractors Limited
Model	:	Sonalika International DI-20 Gardentrac
Brand name	:	Sonalika (apa) Sonalika (apa)
Type	:	Four wheeled, Four wheel drive, Agricultural Tractor
Year of manufacture	:	HW (June, 2011) 2011
Chassis number	:	HZWSW249042/5 KMGSW265252G
Country of origin	:	India India



6. SUMMARY OF OBSERVATIONS, COMMENTS & RECOMMENDATIONS

6.1 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/ requirement		As observed		Whether meets the requirements (Yes/No.)
				Previous Sample	Present sample	Previous Sample	Present sample	
6.1.1 PTO Performance :								
a)	- Max. 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	10.3	10.3	10.5	10.2	Yes
b)	Specific fuel consumption corresponding to maximum power, (g/kWh)	Non Evaluative	± 5%	323	323	327	339	Yes
6.1.2 Wetland cultivation :								
	Sealing for the following assemblies:	Evaluative	The identified assemblies should essentially meet the requirement of IS: 11082. No water ingress in the identified assembly given in column-2. If tractor does not meet the requirements of wetland cultivation, it may be recommended for dry land operation only.	The manufacturer has recommended that the tractor is not suitable for wetland cultivation (Puddling operation)	Recommended for wetland cultivation (Puddling operation).	Not Recommended for wetland cultivation (puddling operation)	No ingress of mud/or water was noticed during Test Recommended for wetland cultivation (puddling operation)	Yes
1)	Clutch assembly	-do-						
2)	Brake housings	-do-						
3)	Front axle hubs	-do-						
4)	Engine oil	-do-						
5)	Transmission oil	-do-						
6.1.3 Labelling of tractors:								
1)	Make	Evaluative	Should conform to the requirements of CMVR along-with declared value of PTO HP	International Tractors Ltd	International Tractors Ltd	Yes		
2)	Model	Evaluative		Sonalika International DI-20 Gardentrac	Sonalika International DI-20 Gardentrac	Yes		
3)	Year of manufacture	Evaluative		HW (June, 2011)	2011	Yes		
4)	Engine number	Evaluative		189949	A1244	Yes		
5)	Chassis number	Evaluative		HZWSW 249042/5	HMGSW265252 G	Yes		
6)	Declaration of PTO power, kW (hp)	Evaluative		10.30 (13.8)	10.30 (13.8)	Yes		

**6.3 Salient Observations:****6.3.1 Laboratory tests:****6.3.1.1 PTO Performance:**

- i) The maximum power in case of previous & present sample was observed as 10.5 kW & 10.2 kW respectively against the declaration of 10.3 kW which is within the tolerance limit specified in IS: 12207-2014.
- ii) The specific fuel consumption corresponding to maximum power in case of previous & present sample was observed as 327 g/kWh & 339 g/kWh respectively against the declaration of 323 g/kWh which is within the tolerance limit specified in IS: 12207-2014. This is considered on higher side for this power range of tractor.

6.3.1.2 Three point linkage:

The following dimensions of three point linkage does not meet the requirement of IS: 4468 (Part-2) -1993. This should be looked into for necessary corrective action.

- i) The diameter of hitch pin hole of upper hitch points.
- ii) Distance from end of power take-off shaft to centre of lower hitch point (lower links in horizontal position).
- iii) Transport height, power / movement range and leveling adjustment range.
- iv) Some of the parameters of three point linkage conform to Category-I N and some of them conform to Category-I. In view of the spirit of standardization, necessary improvement may be incorporated.

6.3.1.3 Linkage drawbar:

Dimension "D \emptyset " (Refer Fig.1) of linkage drawbar does not meet the requirement of IS: 12953-1990. This should be looked into for necessary corrective action.

6.3.1.4 Specifications of Power Take-off Shaft:

The dimension "d \emptyset " (See Fig. 2) of PTO shaft does not meet the requirement of IS: 4931:1995, this should be looked into for compliance.

6.3.1.3 Operator's Seat:

- i) The width of operator's seat was observed as 400 mm against the requirement of 450 (minimum) mm as per IS: 12343-1998. This should be looked into for necessary corrective action.
- ii) Longitudinal adjustment forward and rearward from the mid position.

6.3.2 Field Performance :**6.3.2.1 Wet land cultivation (Puddling operation) :-**

There is no ingress of water and /or mud was observed after the wetland operation at specified assemblies as per IS: 11082:1982. Therefore, the tractor is considered suitable for wetland cultivation (Puddling operation).

6.4 Recommendation with regard to safety on tractor:

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

- i) Provision of safety against accidental start of engine.
- ii) Provision of spark arresting device in the exhaust system.
- iii) Provision for Master shield for PTO shaft.
- iv) Provision of front tow hook.
- v) The working clearance between the high-low range shifting lever engage in high position and bottom of seat base has does not meet the requirement of the IS: 12239 (Part-2)-1996. This should be looked into for necessary corrective action.
- vi) Symbols for engine oil pressure gauge, grease lubricant frequency ,oil lubricant ,type and frequency & color code for engine oil pressure gauge may be provide as per requirements of IS:6283 (Part I & II) 1998.



T- 1012/1536/2016

INTERNATIONAL TRACTORS LIMITED, SONALIKA INTERNATIONAL
DI-20 GARDENTRAC TRACTOR - Commercial (Supplementary Test)

6.5 Maintenance / Service Problems:

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

6.6 Adequacy of Literature supplied with machine:

6.6.1 The following literature was supplied with the tractor for reference during the testing.

- i) Operator Manual in respect of SONALIKA INTERNATIONAL DI-20 GARDENTRAC tractor.
- ii) Parts Catalogue in respect of SONALIKA INTERNATIONAL DI-20 GARDENTRAC tractor.
- iii) Service Manual in respect of SONALIKA INTERNATIONAL DI-20 GARDENTRAC tractor.

6.6.2 The literatures should also be brought out in national as well as other regional languages for the guidance of *users* and service personnel.

7. 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	8 Months (July, 2015 to March, 2016)	Yes	None

TESTING AUTHORITY:

PRAMOD YADAV
AGRICULTURAL ENGINEER

PARDIPKUMAR C. MESHAM
SENIOR AGRICULTURAL ENGINEER

C.R.LOHI
DIRECTOR

8. APPLICANT'S COMMENTS

Para No.	Our Reference	Applicant's comments
-None-		