



**NEW HOLLAND 4710 A 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](mailto:fmti-mp@nic.in)

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

Telephone : 07564 - 234729

Fax : 07564 - 234743



T- 1020/1544/2016

NEW HOLLAND 4710 A TRACTOR Commercial (Initial)

**Manufacturer** : M/s. New Holland Fiat (India) Pvt. Ltd.,  
Plot N0.-3, Udyog Kendra,  
Greater Noida – 201 306,  
Distt. Gautam Budh Nagar,  
(Uttar Pradesh)

Test requested by : The manufacturer  
Selected for test by : The manufacturer  
Place of running-in : At manufacturer's works  
Duration of said running-in, (h):  
- Engine : 50  
- Transmission : 50  
**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 : New Holland  
Model : 4710 A  
Brand name : NA  
\*Variants. If any: : As per table below

S.No.	Variants Model	Variant Feature
1.	New Holland 4710 A1	8x8 speed
2.	New Holland 4710 A1	4 WD

\*The variant models have not been tested at this Institute yet.

S.No.	Declared as optional features in present sample.	
1.	<b>Clutch system</b>	: Dual plate with standard fitting
		: Single plate with optional fitting

Type : Four wheeled, Rear-wheel driven ,  
Standard Agricultural Tractor.  
Year of manufacture : EK (As per coding details, i.e. October,  
2014)  
Chassis number : NHN47100ZEK306523  
Country of origin : India

**1.2 Engine:**

Make : SIMPSON  
Model : T-III A S327/NH-F3.1  
Type : Four stroke, water cooled, direct injection,  
natural aspirated, diesel engine.  
Serial number : SJ-32757606  
Country of origin : India

**1.2.1 Engine speed (rpm), (Manufacturer's recommended production settings):**

- Maximum speed at no load : 2450 to 2520  
- Low idle speed : 600 to 800  
- Speed at maximum torque : 1200 to 1400

**Rated speed, (rpm):**

- For PTO use : 2250  
- For drawbar use : 2250





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

- 17.1 Evaluative (mandatory) / Non-evaluative (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:

Sl. 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>17.1.1 PTO Performance :</b>						
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 >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	31.6 (D)	31.7	Yes
b)	Power at rated engine speed, (kW)	Non Evaluative	-do-	31.6 (D)	31.7	Yes
c)	Specific fuel consumption corresponding to maximum power, (g/kWh)	Non Evaluative	+ 5%	265 (D)	271	Yes
d)	Maximum equivalent crankshaft torque, (Nm)	Non Evaluative	± 8%	176 (D)	167.9	Yes
e)	Back-up torque, percent	Non Evaluative	10 percent, min.	20 (D)	25.0	Yes
<b>f) 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)	115	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.	119 (D)	98	Yes
g)	Engine oil consumption, (g/kWh)	Evaluative	Not exceeding 1% of SFC at max. power under High ambient conditions	2.71 Maximum (R) Not specified (D)	0.26	Yes
h)	Smoke level	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)	0.17	Yes



T- 1020/1544/2016

NEW HOLLAND 4710 A TRACTOR Commercial (Initial)

1	2	3	4	5	6	7
<b>17.1.2 Drawbar performance :</b>						
a)	Maximum drawbar pull with ballast corresponding to 15 percent wheel slip, (kN)	Non Evaluative	Minimum 65% of static mass with ballast	20.00 (D)	24.56	Yes
				18.64 (R) Minimum		
b)	Max. 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	14.00 (D)	17.12	Yes
				12.62 (R) Minimum		
c)	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.	25.4 (D)	28.6	Yes
				25.4 (R) Minimum		
d)	Maximum transmission oil temperature (°C)	Non Evaluative	The declared value should not exceed the maximum value specified by oil company	130 (D)	86	Yes
<b>17.1.3 Power lift and hydraulic pump performance :</b>						
<b>a) Maximum lifting capacity throughout the range of lift, (kN):</b>						
1)	At hitch points	Non Evaluative	[Tolerance of minus 10%]	14.75 (D)	16.91	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	12.00 (D) 7.60 (R) Minimum	14.19	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	15	Yes





PY

1	2	3	4	5	6	7
<b>17.1.4</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)	7.18	Yes
	2) Hot brake	Evaluative	10	10 (R)	7.73	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) Maximum	261 to 405	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>17.1.5</b>	<b>Noise measurement :</b>					
<b>a)</b>	Maximum ambient noise emitted by the tractor dB(A)	Evaluative	As per CMVR	88(R)	83	Yes
<b>b)</b>	Maximum noise at operator's ear level dB(A)	Evaluative	As per CMVR	96(R)	95	Yes
<b>17.1.6</b>	<b>Amplitude of mechanical vibrations at:</b>					
	1) Left foot rest	Non Evaluative	100 microns (max)	100(R)	210	No
	2) Right foot rest				120	No
	3) Seat (with driver seated)				40	Yes
	4) Steering wheel				90	Yes
<b>17.1.7</b>	<b>Air cleaner pull over:</b>	Non Evaluative	0.25% (Max)	0.25%	0.00 to 0.62%	No
<b>17.1.8</b>	<b>Haulage requirements :</b>					
<b>a)</b>	Gross mass of the trailers, (tones):					
	1) Two wheel	Non Evaluative	--	5.0 (D)	5.0	Yes
	2) Four wheel		--	7.0 (D)	7.0	Yes
<b>b)</b>	Distance travelled / liter of fuel consumption, (km/l):					
	1) Two wheel	Non Evaluative	--	4.0 to 6.0 (D)	4.75 to 5.01	Yes
	2) Four wheel		--	4.0 to 6.0 (D)	4.47	Yes
<b>c)</b>	Fuel consumption (ml/km/tonne):					
	1) Two wheel	Non Evaluative	--	25 to 50(D)	39.89 to 42.06	Yes
	2) Four wheel		--	25 to 50(D)	31.94	Yes
<b>17.1.9</b>	<b>Wetland cultivation :</b>					
	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 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-				



T- 1020/1544/2016

NEW HOLLAND 4710 A TRACTOR Commercial (Initial)

1	2	3	4	5	6	7
<b>17.1.9</b>	<b>Safety features :</b>					
a)	Guards against moving and hot parts	Evaluative	Belt drives, pulleys, silencer, hydraulic pipes (As per IS 12239 (Part2))	--	Meets the requirements	Yes
b)	Lighting arrangement	Evaluative	As per CMVR	--	Meets the requirements	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)	--	Meets the requirements	Yes
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-I) (As amended from time to time)	--	Meets the requirements	Yes
f)	Specifications of linkage	Non Evaluative	Should meet the requirements of IS 12953 and IS 12362 (Part 3) (As amended from time to time)	--	Meets the requirements	Yes
	Swinging drawbar			--	Not Provided	Not applicable

<b>17.1.10 Labelling of tractors (Provision of labelling plate):</b>							
1)	Make	Evaluative	Should conform to the requirements of CMVR	-	New Holland	Yes	
2)	Model	Evaluative		-	4710 A	Yes	
3)	Year of Manufacture	Evaluative		-	EK (October, 2014)	Yes	
4)	Engine number	Evaluative		-	SJ-32757606	Yes	
5)	Chassis number	Evaluative		-	NHN47100ZEK 306523	Yes	
6)	Declaration of PTO power, (kW)	Evaluative		-	31.63		
<b>Additional information</b>							
7)	Total Permissible Mass,(kg)			--	2925	Yes	
8)	Permissible front axle load,(kg)			-	From 700 to 900	Yes	
9)	Permissible rear axle load,(kg)			-	From 1155 to 2025	Yes	
10)	Independently braked towable mass,(kg)			-	Not Specified	Yes	
11)	Towable mass with assisted braking system,(kg)			-	Not Specified	Yes	
12)	Unbraked towable mass ,(kg)			-	Not Specified	Yes	
13)	Inertia braked towable mass,(kg)		-	Not Specified	Yes		
	Name of Manufacturer		-	New Holland Fiat (India) Pvt. Limited. Plot No. 03,Udyog Kendra ,Greater Noida- 201306	Yes		





1	2	3	4	5	6	7
<b>17.1.11</b>	<b>Discard limit for:</b>					
(a)	Cylinder bore diameter, (mm)	Evaluative	To be specified by the manufacturer and supported by the printed literature	95.202 (D)	94.99 to 95.01	Yes
(b)	Clearance between piston & cylinder liner at skirt, (mm)	Non Evaluative		0.50 (D)	0.123 to 0.133	Yes
(c)	<b>Ring end gap (mm):</b>					
	- Top comp. ring.	Evaluative	-do-	1.50 (D)	0.45	Yes
	- 2 <sup>nd</sup> comp. ring.		-do-	1.50 (D)	0.80 to 0.85	Yes
	- Oil ring.		-do-	1.50 (D)	0.40 to 0.45	Yes
(d)	<b>Ring groove clearance (mm):</b>					
	- Top comp. ring.	Evaluative	-do-	0.40 (D)	Tapered rings	--
	- 2 <sup>nd</sup> comp. ring.		-do-	0.40 (D)	0.065 to 0.080	Yes
	- Oil ring.		-do-	0.40 (D)	0.058 to 0.064	Yes
(e)	<b>Clearance of main bearings (mm):</b>					
	- Diametrical clearance	Evaluative	-do-	0.60 (D)	0.094 to 0.157	Yes
	- Crankshaft end float	Evaluative		0.75 (D)	0.15	Yes
(f)	<b>Clearance of big end bearings, (mm):</b>					
	- Diametrical	Evaluative	-do-	0.60 (D)	0.088 to 0.204	Yes
	- Axial	Evaluative	-do-	0.75 (D)	0.20	Yes
(g)	Clearance between king pin and bush, (mm)	Non Evaluative	-do-	0.50 (D)	0.108 to 0.156	Yes
(h)	Clearance between centre pin and bush, (mm)	Non Evaluative	-do-	0.50 (D)	0.155 to 0.247	Yes
<b>17.1.12</b>	<b>Literature (Submission to test agency)</b>					
(a)	Operator manual	Evaluative	Provided/ Not Provided	As per relevant IS Code (IS 8132)	Provided	Yes
(b)	Parts Catalogue	Evaluative	Provided/ Not Provided	As per relevant IS Code (IS 8132)	Provided	Yes
(c)	Workshop/ Service manual	Evaluative	Provided/ Not Provided	As per relevant IS Code (IS 8132)	Provided	Yes
<b>17.1.13</b>	<b>CATEGORY OF BREAKDOWNS / DEFECTS :</b>					
Sl. No.	Category of breakdowns	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.	None	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.	None	Yes	



T- 1020/1544/2016

NEW HOLLAND 4710 A TRACTOR Commercial (Initial)

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	Remarks
1.	Fitment of ROPS	With a provision for fitment of ROPS.	Not provided	Not applicable
		If ROPS fitted it should meet the requirement of IS: 11821 (As amended from time to time) or equivalent International Standards	ROPS not provided	Not applicable
2.	Accessories	Trailer hitch, front tow hook, may be provided.	Provided	Yes

**17.3 Conformity with following IS:**

- i) Guidelines 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 (Reaffirmed in March, 2007)/ISO 730-1:1994] : 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 (Reaffirmed in March, 2009)/ISO 4254-1:1989]. : **Does not conform**
- vii) 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**
- viii) 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]]. : Conforms
- 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



**17.4 Salient Observations:****17.4.1 Laboratory tests:****17.4.1.1 PTO Performance:**

- i) The backup torque is 25.0%.
- ii) The specific fuel consumption corresponding to maximum power was measured as 271 g/kWh against the declaration of 265 g/kWh, which meet the requirement of IS:12207-2014 with regard to tolerance..

**17.4.1.2 Drawbar performance test:**

- i) During ten hours drawbar test, creeping of LHS & RHS rear tyre over the rims was observed as 30 mm & 10 mm respectively. This should be looked into for necessary corrective action.

**17.4.1.3 Mechanical Vibration:**

The amplitude of mechanical vibration on various assemblies marked as (\*) in Chapter – 9 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.

**17.4.1.4 Operator's seat:**

- i) Width of seat does not meet the requirements of IS: 12343-1998.
- ii) Longitudinal distance of differential lock pedal from SIP does not meet the requirements of IS: 12343-1998.

**17.4.1.5 Location and operation of operator's control:**

The working clearance around the liftomatic push button & position control lever does not meet the requirement of the IS: 12279 (Part-2)-1999. This should be looked into for necessary corrective action.

**17.4.1.6 Three point linkage:**

Some of the parameters of the three point linkage conform to Cat. I and some of them conform to Cat.II. Keeping in view of the spirit of standardization, the necessary improvements may be incorporated.

**17.4.1.7 Air cleaner oil pull over test:**

The oil pull over (%) at tractor was parked on ground level was observed as 0.62% which exceeds the limit of 0.25 % as per IS: 12207-2014. This does not meet the requirement of IS: 12207-2014 and therefore, should be looked into for necessary corrective action.

**17.4.2 Field performance test:****17.4.2.1 Wetland cultivation (Puddling operation):**

No ingress of mud and / or water was noticed during puddling operation of the tractor and meet the requirements of IS: 11082-1984 (Technical requirements of agricultural tractors for wetland operation). Therefore, the tractor is recommended as suitable for wetland operation (Puddling).

**17.5 Maintenance / Service Problems:**

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

**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.



T- 1020/1544/2016

NEW HOLLAND 4710 A TRACTOR Commercial (Initial)

**17.6 Adequacy of Literature:****17.8.1** The following literatures were supplied with the test tractor for reference during the test:-

- Operator's manual (For 3210, 3510, 4010, 4510 & 4710 series model tractors)
- Service Parts catalogue (For 3210, 3510, 4010, 4510 & 4710 series model tractors)
- Service Manual (For 3210, 3510, 4010, 4510 & 4710 series model tractors)

**18. Citizen charter**

Duration of Test	Test duration under citizen charter	Whether the report released within time frame given in the citizen charter	Remark
8 Months (July, 2015 to March, 2016)	10 Months	Yes	Yes

**TESTING AUTHORITY:****PRAMOD YADAV**  
AGRICULTURAL ENGINEER**H.L. YADAV**  
SENIOR AGRICULTURAL ENGINEER**C.R. LOHI**  
DIRECTOR**19. APPLICANT'S COMMENTS**

Para No.	Our Reference	Applicant's comments
19.1	17.3 (vi 7vii) ,17.4.1.7	Your valuable comments & suggestions for improvements are well taken. Under our policy of continuous product improvement these aspects are further being looked into & will take appropriate actions to eliminate these deviations soon wherever necessary.