

व्यावसायिक परीक्षण रिपोर्ट (वैरिएंट)
COMMERCIAL TEST REPORT (Variant)

संख्या/ No. : T- 1581/2109/2021
माह/Month : September, 2021

(यह परीक्षण रिपोर्ट 30/09/2024 तक वैध है। / THIS TEST REPORT IS VALID UPTO: 30/09/2024)

[ONLINE TESTING]



JOHN DEERE 5205 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 AND FARMERS WELFARE)

केन्द्रीय कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान

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T- 1581/2109/2021	JOHN DEERE 5205 TRACTOR - COMMERCIAL (VARIANT)
	THIS TEST REPORT IS VALID UPTO: 30/09/2024

1	2	3	4
5.	Range of speed,(kmph):		
	- Forward	3.13 to 34.23	2.97 to 32.45 (Variation of -5.49 to -4.59%)
	-Reverse	4.11 to 14.87	3.89 to 14.12 (Variation of -5.35 to -5.04%)
6.	Wheel Equipment:		
	Steered wheel (s):		
	Size & ply rating	6.00 – 16 & 8 PR	7.50-16 & 8 PR
	Drive wheel (s):		
	Size & ply rating	12.4-28 & 12 PR	14.9-28 & 12 PR
	Track width, (mm)	1230, 1330, 1410 (Std.), 1530, 1630, 1730 & 1830	1320, 1415 (Std.), 1510, 1630, 1720 & 1825
7.	Declared maximum PTO power, kW	26.0	30.1 (Variation of 15.8%)
8.	Over all dimensions,(mm):		
	-Length/Width/Height	3400/1760/2210	3410/1820/2240
9.	Ground clearance, (mm)	360	430

Subsequent to the examination of the case in light of Clause 8.4, Sr.No. (v) of Table-2 & (iii) of Table -3 of IS:12207-2019, the following tests were considered to be carried out:

- Specification checking in full
- Nominal speed test
- Two hours maximum PTO performance test, under natural ambient condition

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 15W40	As recommended
2.	Gearbox, differential, rear axle, final drive, hydraulic, steering and brake system	John Deere Hy. Guard	Oil originally filled in the tractor system was not changed
3.	Grease	John Deere high temperature/Extreme-pressure/Non-clay grease	Multipurpose grease

3. ESSENTIAL TEST

3.1. SPECIFICATIONS

3.1.1 Tractor:		<u>Base Model</u>		<u>Variant Model</u>
Make	:	John Deere		
Model	:	5039D		5205
Type	:	Four wheeled, Rear wheel driven, Unit Construction, General purpose, Agricultural tractor.		
Month & Year of manufacture	:	02 / 20		01/21
Chassis number	:	1PY5039DLLA011655		1PY5205DLMA000560
Country of Origin	:	India		

7. SUMMARY OF OBSERVATIONS, COMMENTS & RECOMMENDATIONS

7.1 On the basis of test conducted the performance results have been summarized as evaluative (mandatory) and non – evaluative (not mandatory) parameters applicable for qualifying Minimum Performance Criteria as per clause-4 table-1 of **Indian Standard 12207: 2019** 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: 12207-2019	Values declared by the applicant (D)/Requirement (R)		As observed		Whether Variant model meets the requirements (Yes/No)
				<u>Base model</u>	<u>Variant Model</u>	<u>Base model</u>	<u>Variant model</u>	
1	2	3	4	5a	5b	6a	6b	7
7.1.1 PTO Performance:								
a)	Maximum power under 2 h test, (kW) (Natural ambient condition)	Evaluative	Declared value to be achieved with a tolerance of: ±5 percent for PTO power and engine power > 26kW. ±10 percent for PTO power and or engine ≤ 26 kW.	26.0 (D)	30.1 (D)	27.6	31.0	Yes
b)	Specific fuel consumption corresponding to maximum power, (g/kWh)	Evaluative	+10 %	270 (D)	270 (D)	261	257	Yes
7.1.2 Safety features:								
a)	Guards against moving and hot parts	Evaluative	Belt drives, pullies, 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 (Tractors having more than 1150 mm rear track width)	Non Evaluative	Should meet the requirements of IS: 12343-1998				Does not Meet the requirements	No
d)	Technical requirements for PTO shaft	Evaluative	Should meet the requirements of IS: 4931 (As amended from time to time)				Meets the requirement	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 requirement	Yes
f)	Specifications of linkage drawbar	Evaluative	Should meet the requirements of IS:12953-1990				Meets the requirement	Yes
g)	Swinging drawbar (wherever fitted)	Evaluative	Should meet the requirement of IS: 12362 (Part 3) (As amended from time to time)				Not fitted	Not applicable

T- 1581/2109/2021	JOHN DEERE 5205 TRACTOR - COMMERCIAL (VARIANT)
	THIS TEST REPORT IS VALID UPTO: 30/09/2024

1	2	3	4	5a	5b	6a	6b	7		
h)	1)	Maximum travelling speed at rated engine speed in reverse gear, (kmph)	Evaluative		Should not exceed 20 kmph	14.12 kmph (Meets the requirement)		Yes		
	2)	Audible warning signal on tractor	Evaluative		As soon as the travelling speed in reverse gear reaches to 20 kmph, an audible warning signal on tractor shall be activated. The safety aspects about the operation of shuttle technology shall be brought in operation and manufacturer/dealer shall ensure the training on this aspect to operator before the delivery of tractor.	Not applicable		Not applicable		
7.1.3	Labelling of tractors (Provision of labelling plate):									
	1)	Make	Evaluative		Should conform to the requirements of CMVR along with maximum PTO Power in kW and year of manufacture in numerical form. <table border="1" style="margin: 5px auto;"><tr><td>MM</td><td>YY</td></tr></table> Digit 01 – 12 in box No.1 for MM will represent the months and next two digits in box No.2 for YY will represent the year of manufacturing.	MM	YY	JOHN DEERE		Yes
MM	YY									
	2)	Model	Evaluative			5205		Yes		
	3)	Month & Year of manufacture	Evaluative			01 / 21		Yes		
	4)	Engine number	Evaluative			PY3029D611271		Yes		
	5)	Chassis number	Evaluative			1PY5205DLMA000560		Yes		
	6)	Declaration of PTO power, kW	Evaluative		30.1		Yes			
7.1.4	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		
7.1.5		Fitment of Roll Over Protective Structures (ROPS): for tractor having more than 1150 mm rear track width	Evaluative		ROPS should meet the requirement of IS 11821 or OECD code or equivalent International standard	ROPS not fitted		Not applicable		
7.1.6		Standard Accessories	Evaluative		Trailer hitch, front tow hook, linkage drawbar should be provided with the tractor.	Provided		Yes		
7.1.7		Accessories (optional)	Non Evaluative		Ballast weights, if fitted, should meet the requirement of CMVR	Not Provided		Not applicable		

7.2 CATEGORY OF BREAKDOWNS / DEFECTS (as per clause 5.0 of IS:12207-2019):					
Sl. No.	Category of breakdowns	Category (Evaluative / Non Evaluative)	Requirements as per IS: 12207-2019	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 three 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

7.3 Salient Observations:

7.3.1 Laboratory tests:

7.3.1.1 PTO Performance:

- i) The maximum power in case of base & variant model are observed as **27.6 & 31.0 kW** respectively against the declaration of **26.0 kW & 30.1 kW** respectively, which meets the requirement of IS: 12207-2019 with regard to tolerance limit..
- ii) The specific fuel consumption in case of base and variant models corresponding to maximum power are observed as **261 & 257 g/kWh** against the declaration of **270 g/kWh** respectively, which meets the requirement of IS: 12207-2019 with regard to tolerance limit.

7.4 Maintenance / Service problems:

No noticeable maintenance and service problems was observed during the test.

7.5 Recommendation with regard to safety on tractor:

The following requirements, inter alia, may be considered for incorporation on the tractor as per relevant Indian Standards:

- i) Longitudinal distance from seat index point to the centre of differential lock pedal has been measured as 200 mm against the requirement of 355 to 770 mm as per IS: 12343-1998 (Re-affirmed in January, 2019).
- ii) 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 as per IS: 12343-1998 (Re-affirmed in January, 2019).
- iii) In engine revolution gauge, colour zone has not been provided as per IS: 6283 (Part-1 & 2) – 1998 (Reaffirmed in January, 2019).
- iv) Spark arrester in the exhaust system of tractor's engine has not been provided as per IS: 12239 (Part-2)-1999 (Re-affirmed in January, 2019).
- v) The working clearance between the position control lever and mudguard has been measured as 50 mm against the minimum requirement of 70 mm as per IS: 12239 (Part-2) – 1999 (Reaffirmed in January, 2019).

7.6 Adequacy of Literature:



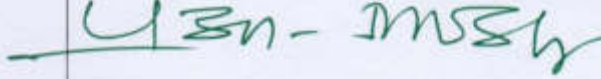
7.6.1 The following literatures were supplied with the test tractor for reference during the test:-

- i) Operator's manual of John Deere 5036D, 5038D, 5039D, 5042D V3, 5045D V2, 5045D 4WD V2, 5050D, 5050D V1, 5105, 5205 and 5005 tractor models
- ii) Workshop Service / Technical manual (Part – I, II & III) of John Deere 5036D, 5038D, 5039D, 5042D, 5045D, 5050D, 5050D V8, 5105, 5105 4WD V2, 5205 and 5005 tractor models.
- iii) Part's Catalogue of John Deere 5205 tractor model.

7.6.2 However, these literatures should also be brought out in other vernacular languages of India for guidance of users.

The results of the tests carried out on variant model "John Deere 5205" tractor have been compared with those on base model "John Deere 5039D" tractor tested vide test report No. T-1482/2009/2020 (September, 2020) which was found within the limit, as specified in IS: 12207-2019.

TESTING AUTHORITY:

C.V.CHIMOTE TEST ENGINEER	
Y. K. RAO SENIOR AGRICULTURAL ENGINEER	
P. K. PANDEY DIRECTOR	

The draft test report compiled by: Poonam Khurasia, Senior Technical Assistant

T- 1581/2109/2021	JOHN DEERE 5205 TRACTOR - COMMERCIAL (VARIANT)
	THIS TEST REPORT IS VALID UPTO: 30/09/2024

8. APPLICANT'S COMMENTS

Para No.	Our Reference	Applicant's comments
8.1	7.5 (i), (ii) & (iii)	Your valuable comments & suggestions for improvements are well taken. Under our policy of continuous product improvement these aspects are further being looked into & will try to eliminate these deviations soon, whenever necessary.

ANNEXURE- I

TRACTOR RUN HOURS DURING TEST

A.	LABORATORY AND TRACK TESTS:	<u>HOURS</u>
1.	Running-in	24.0
2.	PTO performance test under natural ambient condition	2.8
3.	Nominal speed test	1.1
B.	Miscellaneous test and other run hours including idle run, transportation, preparation for test and trial runs.	0.5
TOTAL		28.4