

व्यावसायिक परीक्षण रिपोर्ट (द्वितीय बैच परीक्षण रिपोर्ट) संख्या / No. : T-1451/1978/2020
COMMERCIAL TEST REPORT (2nd Batch Test) माह / Month : July, 2020

(यह परीक्षण रिपोर्ट 31/07/2025 तक वैध है। / THIS TEST REPORT IS VALID UP TO : 31/07/2025)



KUBOTA L3408 DD TRACTOR



सत्यमेव जयते

भारत सरकार

कृषि एवं किसान कल्याण मंत्रालय
कृषि, सहकारिता एवं किसान कल्याण विभाग
मशीनीकरण एवं प्रौद्योगिकी प्रभाग

GOVERNMENT OF INDIA

MINISTRY OF AGRICULTURE AND FARMERS WELFARE

(Department of Agriculture, Cooperation & Farmers Welfare, Mechanization & Technology Division)

केन्द्रीय कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान

ट्रैक्टर नगर, बुदनी (म.प्र.) ४६६ ४४५

CENTRAL FARM MACHINERY TRAINING & TESTING INSTITUTE

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The "KUBOTA L3408 DD" tractor had undergone "Initial Commercial Test" at this Institute and a test report No. T- 678/1184/2009 released in June, 2009. The said tractor model had undergone first batch tests vide test report no. T-918/1434/2014 released in April, 2014. Thereafter, the applicant has submitted an application for second batch testing of "KUBOTA L3408 DD" tractor.

All necessary tests as per Table-1 of clause 6.0 of IS: 5994 - 1998 (Reaffirmed in 2014) were carried out and test report released as under.

Manufacturer : M/s. Kubota Corporation
1-2-47, Shikitsu-Higashi, Naniwa-ku,
Osaka, 556-8601, JAPAN

Test requested by : M/s. Kubota Agricultural Machinery India Pvt. Ltd. C/o Protect Circuits & Systems Pvt. Ltd.,
No15, Medavakkam Road, Sholinganallur,
Chennai, Tamil Nadu, INDIA 600119

Warehouse address : M/s. Kubota Agricultural Machinery India Pvt. Ltd. Gat No.338/1 Mahalunge Village, Chakan,
Pune, Maharashtra, INDIA 410501

Selected for test by : The testing authority
Place of running-in : At CFMT&TI Budni
Duration of said running-in, (h):
- Engine : 50
- Transmission : Nil

Method of Selection : The test sample was selected randomly out of Five tractors from the production line by the representative of testing authority.

Details of tractors made available for random selection :

Sr. No.	Chassis Number	Engine No.
i)	KBTL20DNHK8D60729	7KG3251
ii)	KBTL20DNPK8D60722	7KG3378
iii)	KBTL20DNJK8D60724	7KG3426
iv)	KBTL20DNLK8D60728	7KG3297
v)	KBTL20DNTK8D60721	7KG2594

1. SPECIFICATIONS

- 1.1 Tractor:**
- Make : Kubota
Model : L3408 DD
Brand name : None
Variants, if any : None
Type : Four wheeled, Four wheel driven, standard agricultural tractor
Month & Year of manufacture : 04/19
Chassis number : KBTL20DNPK8D60722
Country of origin : Japan
- 1.2 Engine:**
- Make : Kubota Corporation, Japan
Model : D1703-M-DI
Type : Four stroke, naturally aspirated, liquid cooled, direct injection, diesel engine
Serial number : 7KG3378
Year of manufacture : Not available
Country of origin : Japan



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14. SUMMARY OF OBSERVATIONS, COMMENTS & RECOMMENDATIONS

14.1 On the basis of tests conducted the performance results have been summarized as evaluative (mandatory) and non-evaluation (not-mandatory) parameter applicable for Qualifying Minimum Performance Criteria as per Clause-4 (Table-1) of IS: 12207-2019 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: 12207-2019	Values declared by the applicant (D) / Requirements (R)	As observed	Whether meets the requirements (Yes/No)
1	2	3	4	5	6	7
14.1.1 PTO Performance :						
a)	Max. power under 2 h test, (kW) (Natural ambient condition)	Evaluative	Declared value to be achieved with a tolerance of: -±5 per cent for PTO Power & or engine power > 26 kW ±10 per cent for PTO Power & or engine ≤ 26 kW	22.4 (D)	21.6	Yes
b)	Power at rated engine speed, (kW)	Non Evaluative	-do-	22.4 (D)	21.5	Yes
c)	Specific fuel consumption corresponding to maximum power, (g/kWh)	Evaluative	+ 10% Max.	281 (D)	277	Yes
d)	Maximum equivalent crankshaft torque, (Nm)	Non Evaluative	± 8%	101(D)	97.2	Yes
e)	Back-up torque, percent	Evaluative	12 percent, min.	27 (D) 12 (R) Minimum	27.6	Yes
f)	Maximum operating temperature(°C):					
1)	Engine oil	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.	130 (D)	115	Yes
2)	Coolant (liquid)	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.	120 (D)	106	Yes
g)	Engine oil consumption, (g/kWh)	Evaluative	Not exceeding 1% of SFC at max. power under High ambient conditions	2.53 (R) Maximum	0.47	Yes
h)	Smoke level, (m ⁻¹)	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 (R) Maximum	0.24	Yes



1	2	3	4	5	6	7
14.1.2	Drawbar performance:					
a)	Maximum drawbar pull with ballast corresponding to 15 percent wheel slip, (kN)	Non Evaluative	Minimum 70% of static mass with ballast	-- --	--	--
b)	Maximum drawbar pull with standard ballast corresponding to 15 percent wheel slip, (kN)	Evaluative	Minimum 70% of static mass of tractor without/ standard ballast	8.8(D) 9.58 (R) Minimum	10.58	Yes
c)	Maximum drawbar power without ballast, or with standard ballast as the case may be, 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.	18.0 (D) 17.3 (R) Minimum	18.3	Yes
d)	Maximum transmission oil temperature (°C)	Evaluative	The declared value should not exceed the maximum value specified by oil company	120 (D)	81	Yes
14.1.3	Power lift and hydraulic pump performance :					
a)	Maximum lifting capacity throughout the range of lift, (kN):					
1)	At hitch points	Evaluative	±10 percent	7.7 (D)	8.13	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	5.7 (D) 5.08 (R) Minimum	6.41	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 minute, (mm)	Non Evaluative	The observed value should not exceed 50 mm	50 (D) 50 (R) Maximum	04	Yes



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1	2	3	4	5	6	7
14.1.4	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)	5.30	Yes
2)	Hot brake	Evaluative	10	10 (R)	5.50	Yes
b)	Maximum force exerted on the brake pedal to achieve a deceleration of 2.5 m/s ² (N)	Evaluative	600	600 (R)	240 to 305	Yes
c)	Whether parking brake is effective at a force of 600 N at foot pedal(s) or 400 N at hand lever, N	Evaluative	Yes / No	Yes	Yes	Yes
14.1.5	Noise measurement :					
a)	Maximum ambient noise emitted by the tractor dB(A)	Evaluative	As per CMVR	88 (R)	77	Yes
b)	Maximum noise at operator's ear level dB(A)	Evaluative	As per CMVR	96 (R)	91	Yes
14.1.6	Amplitude of mechanical vibrations at :					
1)	Left foot rest	Non Evaluative	100 microns (max)	100 Maximum (R)	47	Yes
2)	Right foot rest				161	No
3)	Seat (with operator)				84	Yes
4)	Steering wheel				69	Yes
14.1.7	Haulage requirements :					
a)	Gross mass of the trailers, (tones):					
	Two wheel	Non Evaluative	To be declared by the	3.0	3.0	Yes
b)	Distance travelled / litre of fuel consumption, (km/l):					
	Two wheel	Non Evaluative	To be declared by the manufacturer	6 to 8	4.87 to 4.92	No
c)	Fuel consumption (ml/km/tonne):					
	Two wheel	Non Evaluative	To be declared by the manufacturer	45 to 50	67.70 to 68.50	No
14.1.8	Wetland cultivation :					
1)	Clutch assembly	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 observe during the ICT test vide Test report No. T- 678/1184/2009, June 2009.	Yes
2)	Brake housings	-do-				
3)	Front axle hubs	-do-				
4)	Engine Oil	-do-				
5)	Transmission Oil	-do-				



1	2	3	4	5	6	7
14.1.9	Safety features:					
a)	Guards against moving and hot parts	Evaluative	Belt drives, pulleys, silencer, hydraulics pipes(as per IS-12239 Part 2)	Meet the requirements	Yes	
b)	Lighting arrangement	Evaluative	As per CMVR	Meet 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)	Not applicable as the rear track width of the tractor is less than 1150 mm.	Not applicable	
d)	Technical requirements for PTO shaft	Evaluative	Should meet the requirements of IS: 4931 (As amended from time to time)	Meet 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)	Does not meet the requirements	No	
f)	Specifications of linkage drawbar	Evaluative	Should meet the requirements of IS 12953 (As amended from time to time)	Meet the requirements	Yes	
g)	Specifications of Swinging drawbar (wherever fitted)	Evaluative	Should meet the requirements of IS 12362 (Part 3) (As amended from time to time)	Not fitted	Not applicable	
h)	1) Maximum travelling speed at rated engine speed in reverse gears, kmph	Evaluative	Should not exceed 20 Kmph	7.79 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	
14.1.10	Labelling of tractors (Provision of labelling plate):					
1)	Make	Evaluative	Should conform to the requirements of CMVR along-with declared value of PTO in kW and year of manufacture in numerical MM YY Digit 01-12 in box No.1 for MM will represent the month and next two digit in the box No.2 for YY will represent the year of manufacturing	KUBOTA	Yes	
2)	Model	Evaluative		L3408 DD	Yes	
3)	Month & Year of manufacture	Evaluative		04 / 19	Yes	
4)	Engine number	Evaluative		7KG3378	Yes	
5)	Chassis number	Evaluative		KBTL20DNPK8D60722	Yes	
6)	Declaration of PTO power, kW	Evaluative		22.4	Yes	



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1	2	3	4	5	6	7
14.1.11	Discard limit for:					
a)	Cylinder bore diameter, (mm)	Evaluative	To be specified by manufacturer	87.17	87.005 to 87.024	Yes
b)	Clearance between piston & cylinder liner at skirt, (mm)	Non Evaluative	-do-	0.358	0.044 to 0.052	Yes
c)	Piston diameter, (mm)	Non Evaluative	-do-	86.785	86.972 to 86.976	Yes
d)	Ring end gap (mm):					
	- Top comp. ring.	Evaluative	To be specified by Manufacturer	1.25	0.35 to 0.40	Yes
	- 2 nd comp. ring.			1.25	0.40 to 0.45	Yes
	- Oil ring.			1.25	0.25	Yes
e)	Ring groove clearance (mm):					
	- Top comp. ring.	Evaluative	To be specified by Manufacturer	0.20	0.052 to 0.060	Yes
	- 2 nd comp. ring.			0.20	0.084 to 0.085	Yes
	- Oil ring.			0.15	0.043 to 0.045	Yes
f)	Diametrical clearance of main bearings, (mm):					
	- Diametrical	Evaluative	To be specified by Manufacturer	0.20	0.066 to 0.089	Yes
g)	Clearance of big end bearings, (mm):					
	- Diametrical	Evaluative	To be specified by Manufacturer	0.20	0.052 to 0.076	Yes
	- Axial			0.50	0.40	Yes
h)	Crankshaft end float, (mm)	Evaluative	To be specified by Manufacturer	0.50	0.23	Yes
i)	Clearance between king pin and bush, (mm)	Non Evaluative	To be specified by Manufacturer	--	Not applicable	--
j)	Clearance between center pin and bush, (mm)	Non Evaluative	To be specified by Manufacturer	0.35	0.095 to 0.140	Yes
14.1.12	Literature (Submission to test agency):					
a)	Operator manual	Evaluative	Literature should meet the requirement of Indian Standard : 8132	Provided	Provided	Yes
b)	Parts Catalogue			Provided	Provided	Yes
c)	Service manual			Provided	Provided	Yes
d)	Fitment of Roll Over Protective Structure (ROPS): for tractors having more than 1150 mm rear track width	Evaluative	ROPS should meet the requirement of IS:11821 or OECD code or equivalent International Standard	Provided	Not Fitted	Not applicable
e)	Standard accessories	Evaluative	Trailer hitch, front tow hook, linkage drawbar should be provided with tractor	Provided	Provided	Yes
f)	Optional Accessories	Non Evaluative	Ballast weights if fitted should meet the requirement of CMVR.	Provided	Provided	Yes



14.2 Category of breakdowns / defects (as per clause 5.0 of IS:12207-2019):					
1	Critical breakdown	Evaluative	There is no 'critical breakdown' during the course of testing.	None	Yes
2	Major breakdowns	Evaluative	There are not more than 1 major breakdowns and neither of them is of repetitive nature.	None	Yes
3	Minor breakdowns	Evaluative	There are not more than 3 minor defects during the test and the frequency of each is not be more than two.	None	Yes
4	Total breakdowns	Evaluative	In no case, the total number of breakdowns should exceed four that is, (1 major + 3 minor) or 4 minor breakdowns.	None	Yes

14.3 Salient Observations:

14.3.1 Laboratory tests:

14.3.1.1 PTO Performance Test:

- i) The maximum PTO power was recorded as **21.6 kW** against the declaration of **22.4 kW**, which meets the requirement of IS: 12207-2019 with regard to tolerance limit.
- ii) The specific fuel consumption corresponding to maximum power was recorded as **277 g/kWh** against the declaration of **281 g/kWh**, which is within the tolerance limit of IS: 12207-2019.
- iii) Power drop in high ambient condition with compare to natural ambient condition was recorded **6.02%**
- iv) The backup torque is **27.6 %**.

14.3.1.2 Mechanical Vibration:

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

14.3.1.3 Specifications of three point linkage:

- i) The parameter transport height of tractor does not meet the requirement of IS: 4468 (Part-1) -1979 (Reaffirmed 2014). This should be looked into for necessary corrective action.
- ii) Some of the parameters of three point linkage conform to Cat. I and some of them conform to Cat.II. Keeping in view the spirit of standardization, necessary improvement may be incorporated.

14.3.1.4 Symbols for operator controls and displays:

Oil lubricant type & frequency are not identifiable with the symbols as per IS: 6283 (Part-1 & 2) -2006 & 2007 (re-affirmed in March, 2014). This should be looked into for necessary corrective action.

14.3.1.5 Haulage test:

The specific fuel consumption with two wheel trailer was observed as 67.70 to 68.50 ml/km/tonne against the declaration of 45 to 50 ml/km/tonne and Distance traveled / liter of fuel consumption observed as 4.87 to 4.92 km/lit against the declaration of 6.0 to 8.0 km/lit, which does not meets the requirements of IS: 12207-2019. This should be looked into for necessary corrective action.

**14.4 Maintenance / Service Problems:**

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

14.5 Recommendation with regard to safety on tractor:

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

- i) There should be provision for spark arresting device in exhaust system.
- ii) Provision of master shield in power take-off.
- iii) Provision for easy mounting and dismounting of operator should be provided.
- iv) The working clearance between the mudguard position and control lever, PTO engaging lever and High-Low-Reverse gear shifting lever should be provided as per relevant standard.
- v) Rear working light (plough lamp).
- vi) The full width of rear wheels of tractor is not fully guarded by the mud guard, the rear mudguards should be re designed/improved to enhance the safety

14.6 Adequacy of Literature supplied with machine:

14.6.1 The following literature was supplied with the tractor for reference during the test.

- i) Operator's manual for Kubota L3408DD tractor model.
- ii) Illustrated part list for Kubota L3408DD tractor model.
- iii) Work shop manual for Kubota L3408DD tractor model

14.6.2 The supplied literature was not found adequate as it does not covers the following information. Therefore, it is recommended that relevant literature may be updated by incorporating the following information:

- i) Information related to PTO, Drawbar and hydraulic performance of the tractor such as, backup torque, specific fuel consumption, maximum drawbar power & pull, hydraulic pump discharge rate & hydraulic power etc should be included in the technical specification of the tractor for the guidance of the user's.
- ii) Safe hitch height while using trailer, implement and fuel saving tip.
- iii) List of matching implements, trailers and other farming equipments.
- iv) List of standard fitments.
- v) List of accessories supplied with the tractor.

14.6.3 It is therefore, recommended that following literature may be brought out as per IS: 8132-1999 (Reaffirmed in March, 2009) for the guidance of users and service personnel in national as well as regional languages for this model of tractor.

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15. Citizen charter

Time frame for testing & evaluation as per citizen charter	Duration of Test	Whether the report released within time frame given in the citizen charter	Remark
10 Months	06 Months (January, 2020 to June, 2020)	Yes	None

TESTING AUTHORITY


PRAMOD YADAV
AGRICULTURAL ENGINEER


C.V. CHIMOTE
TEST ENGINEER


J.J.R. NARWARE
DIRECTOR

The report compiled by: Shri Dev Vrat Kumar, Senior Technical Assistant.

16. APPLICANT'S COMMENTS

Para No.	Our Reference	Applicant's comments
16.1	14.6.2	We will look for the possibility to improve as per your suggestion.

ANNEXURE - I

TRACTOR RUN HOURS DURING TEST

A.	LABORATORY AND TRACK TESTS	HOURS
1.	Running-in	50.8
2.	PTO Performance Test	18.6
3.	Power lift and hydraulic pump performance test	2.5
4.	Drawbar performance test	12.9
5.	Brake test	1.0
6.	Noise measurement	1.5
7.	Mechanical vibration test	0.8
8.	Theoretical speed test	2.5
B.	HAULAGE TEST	7.7
C.	Miscellaneous test and other run hours including idle run, transportation, trials and preparation for test	2.5
TOTAL:		100.8