

(यह परीक्षण रिपोर्ट 30/06/2026 तक वैध है। / THIS TEST REPORT IS VALID UPTO:30/06/2026)



EICHER 380 USJ 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, Cooperation & Farmer's Welfare)

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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.	Air Cleaner and Engine oil	SAE 15W40	As recommended
2.	Gearbox, differential, rear axle, rear final drive, brake and hydraulic system	Elf, SF-3I	Oil originally filled in the tractor systems were not changed
3.	Steering system	EP 80	
4.	Grease	MP Grease	MP Grease

3. ESSENTIAL TESTS

3.1 SPECIFICATIONS

3.1.1 Tractor:

Make : Eicher
 Model : Eicher 380 USJ
 Brand name : None
 Type : Four wheeled, Rear-wheels driven, General purpose, Agricultural Tractor.
 Month & Year of manufacture : 06 & 20
 Chassis number : 929413193818
 Country of origin : India

3.1.2 Engine:

Make : Simpson
 Model : T111A S 325/E1-F2.5
 Type : Four stroke, naturally aspirated, liquid cooled, direct injection, diesel engine.
 Serial number : S325K85687
 Year of manufacture : Not Available
 Country of origin : India

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

- Maximum speed at no load : 2400
 - Low idle speed : 600 to 800
 - Speed at maximum torque : 1200 to 1600

Rated speed, (rpm):

- For PTO use : 2150
 - For drawbar use : 2150

3.1.3 Cylinder & Cylinder Head:

Number : Three
 Disposition : Vertical, Inline
 Bore/stroke, (mm) : 91.44 / 127

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6.3 Salient Observations:

6.4 Adequacy of literature:

The following combined literature tractor models were supplied with the test sample for reference during the test.

- | | |
|----------------------|----------------------|
| a) Service Manual | a) Service Manual |
| b) Parts Catalogue | b) Parts Catalogue |
| c) Operator's manual | c) Operator's manual |

7. SUMMARY OF OBSERVATIONS, COMMENTS & RECOMMENDATIONS

7.1 On the basis of test conducted the performance results have been summarized as evaluative (mandatory) / Non-evaluation (Non-mandatory) parameter 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:

S. No.	Characteristic	Category (Evaluative / Non Evaluative)	Requirements as per IS: 12207-2019	Values declared by the applicant (D) / Requirement (R)	As observed	Whether meets the requirements (Yes / No)
1	2	3	4	5	6	7
7.1.1	PTO Performance:					
a)	Max. power under 2 h test, (kW) (Natural ambient condition)	Evaluative	Declared value to be achieved with a tolerance of: $\pm 5\%$ for PTO power or engine power >26 kW, $\pm 10\%$ for PTO power or Engine power ≤ 26 kW.	25.8 (D)	26.5	Yes
b)	Power at rated engine speed, (kW)	Non Evaluative	-do-	25.8 (D)	26.5	Yes
c)	Specific fuel consumption corresponding to maximum power, (g/kWh)	Evaluative	+ 10% Max.	265 (D)	271	Yes
d)	Maximum operating temperature, ($^{\circ}$C) 2hr maximum power test under natural ambient condition:					
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.	135 (D)	107	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.	115(D)	81	Yes

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1	2	3	4	5	6	7
7.1.2	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)	7.84	Yes
	2) Hot brake	Evaluative	10	10 (R)	7.88	Yes
b)	Maximum force exerted on the brake pedal to achieve a deceleration of 2.5 m/s ² , (N)	Evaluative	600	600 (R)	195 to 216	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 (R)	Yes	Yes
7.1.3	Safety features :					
a)	Guards against moving and hot parts	Evaluative	Belt drives, pullies, 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)	Meet the requirements		Yes
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 provided		Not applicable

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1	2	3	4	5	6	7		
h)	1)	Maximum travelling speed at rated engine speed in reverse gears, kmph	Evaluative	Should not exceed 20 kmph	12.24 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.	Not fitted	Not applicable		
7.1.4	Labelling of tractors (Provision of labelling plate):							
	1)	Make	Evaluative	Should conform to the requirements of CMVR along with maximum declared value of PTO power in kW and for month & year of manufacture in numerical <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>MM</td><td>YY</td></tr></table> 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	MM	YY	Eicher	Yes
	MM	YY						
	2)	Model	Evaluative		Eicher 380 USJ	Yes		
	3)	Month & Year of manufacture	Evaluative		06 / 20	Yes		
	4)	Engine number	Evaluative		S325K85687	Yes		
	5)	Chassis number	Evaluative		929413193818	Yes		
	6)	Declaration of PTO power, kW (hp)	Evaluative		25.8 (35.1)	Yes		
7)	Specific fuel consumption, g/kWh (g/hph)	Evaluative	265 (194.9)	Yes				
7.1.5	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		
7.1.6	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	Not provided	Not Fitted	Not Applicable		
7.1.7	Standard accessories	Evaluative	Trailer hitch, front tow hook, linkage drawbar should be provided with tractor	Provided	Provided	Yes		
7.1.8	Accessories (Optional)	Non Evaluative	Ballast weights if fitted should meet the requirement of CMVR.	Provided	Provided	Yes		

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7.2 CATEGORY OF BREAKDOWNS / DEFECTS (As per clause 5.0 of IS:12207-2019):					
S. No.	Category of Breakdown	Category (Evaluative / Non Evaluative)	Requirements as per IS: 12207-2019	As observed	Whether meets the requirement (Yes/No.)
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 01 major breakdowns and neither of them is of repetitive nature.	None	Yes
3.	Minor breakdowns	Evaluative	There are not more than 03 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, (01 major + 03 minor) or 04 minor breakdowns.	None	Yes

7.3 Salient Observations:

7.3.1 Laboratory tests:

7.3.1.1 PTO Performance:

- i) The maximum PTO power was recorded as **26.5 kW** against the declaration of **25.8 kW**, which meets the evaluative requirement of IS: 12207-2019.
- ii) The specific fuel consumption corresponding to maximum power was recorded as **271 g/kWh** against the declaration of **265 g/kWh**, which meets the evaluative requirement of IS: 12207-2019.

7.3.1.2 Three point linkage:

- i) Lateral distance from lower hitch point to center line of tractor is not within the requirement as per relevant Indian standard. This should be looked into for necessary corrective action.
- ii) Some of the parameters conform to Cat. I and some of them conform to Cat. II. Keeping in view the spirit of standardization, necessary improvements may be incorporated.

7.3.1.3 Operator's work place:

Operator's work place meets the requirements of IS:12239 (Part-1) -2018), **except the following:**

- i) Provision of vertical retainers on pedals.
- ii) Provision of spark arresting device in the exhaust system.

7.3.1.4 Constructional requirement with regard to safety:

Constructional requirement with regard to safety meets the requirements of IS: 12239 (Part-2)-1999 (Reaffirmed in January, 2019), except the working clearance between the PTO engaging lever and mudguard is less than the minimum requirement.

7.3.1.5 PTO master shield:

PTO master shield has not been provided on tractor as per the requirements of IS: 4931-1995 (Reaffirmed in January, 2019). This should be looked into for necessary corrective action.

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7.3.1.6 Location of operator's controls with regard to safety:

Location of operator's controls with regard to safety meets the requirements of IS: 8133-1983 (Reaffirmed in January, 2019), except the fuel shut-off knob does not remain in stop position without the application of sustain manual effort.

7.4 Maintenance / Service Problems:

No noticeable maintenance or service problem 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:

- i) Provision of spark arrester in the exhaust system.
- ii) The fuel shut off knob does not remain in 'STOP' position. It should automatically remain in stop position without the application of sustains manual effort.
- iii) Master shield around the PTO shaft has not been provided. It should be provided as per IS: 4931-1995 (Reaffirmed in January, 2019).
- iv) The working clearance around the PTO engaging lever is less than the minimum requirement. It should be provided as per IS: 12239 (Part-2)-1999 (Reaffirmed in January, 2019).



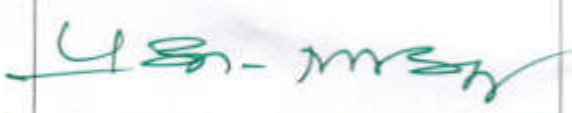
7.6 Adequacy of Literature:

7.6.1 Following literature of following tractor models were supplied with the test sample for reference during the test.

- a) Operator's manual of Eicher, Eicher 380 USJ tractor.
- b) Parts catalogue of Eicher, Eicher 380 USJ tractor.
- c) Service Manual of Eicher, Eicher 380 USJ tractor.

7.6.2 The literature should be brought out in national as well as other regional languages of India for guidance of users.

TESTING AUTHORITY:

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

Draft test report is compiled by: Shwetabh Singh, Agricultural Engineer.

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8. APPLICANT COMMENT'S

Para No.	Our Reference	Applicant's comments
8.1	6.1.8(iii),(vi),(vii)&(viii), 7.1.3(e), 7.3.1.2, 7.3.1.3(ii) & 7.3.1.6	These are being looked into w.r.t. corrective action.
8.2	7.5	Recommendations are being looked into w.r.t. design, development & implementation.

ANNEXURE – I

TRACTOR RUN HOURS DURING TEST

A.	LABORATORY AND TRACK TESTS	HOURS
1.	Running-in	53.0
2.	PTO performance test	3.8
3.	Nominal speed test	0.8
4.	Brake Performance test	2.0
C.	Miscellaneous test and other run hours including idle run, transportation, trials and preparation for test	1.2
TOTAL:		60.8