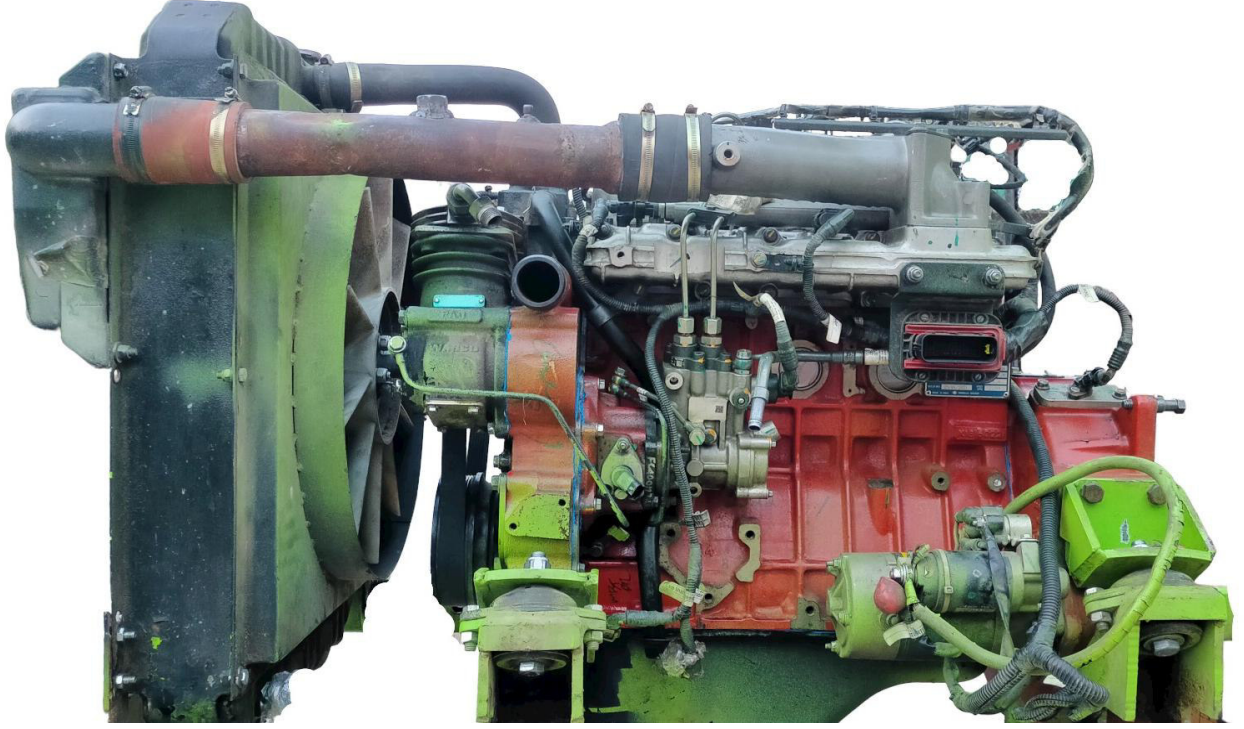


व्यावसायिक परीक्षण रिपोर्ट
COMMERCIAL TEST REPORT

संख्या/ No.: E- 127/2921/2021
माह/Month: September, 2022

THIS TEST REPORT VALID UP TO : 30th September, 2027



**ENGINE PERFORMANCE TEST
ASHOK LEYLAND-H4C47422**



भारत सरकार

Government of India

कृषि एवं किसान कल्याण मंत्रालय

Ministry of Agriculture and Farmers Welfare

कृषि एवं किसान कल्याण विभाग

Department of Agriculture and Farmers Welfare

उत्तरी क्षेत्र कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान

Northern Region Farm Machinery Training and Testing Institute

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11. SELECTED PERFORMANCE AND OTHER CHARACTERISTICS

11.1 Acceptance criteria for performance characteristics as per clause 4.1 of IS 13539:2018							
Sr. No	Characteristics	Category (Evaluative/Non evaluative)	Requirement (R) Declaration (D)	Tolerance	Observed	Remarks	
I.	Prime mover performance						
	a)	Max. power (absolute) average max. power observed during 2 h. Max. power test in natural ambient condition, kW	Evaluative	54.4	±5% of declared value	56.9	Conforms
	b)	Max. power observed during test after adjusting the no load engine speed as per recommendation of the manufacturer for field work (@ 2000 rpm) kW	Evaluative	54.4	±5% of declared value	54.7	Conforms
	c)	Power at rated engine speed, kW (under natural ambient condition)	Non-evaluative	54.4	±5% of declared value	56.9	Conforms
	d)	Specific fuel consumption corresponding to average maximum power under 2 h maximum power test, g/kWh.	Evaluative	265	+5% of declared value	277.7	Conforms

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	e) Max. smoke density (Bosch no.) at 80% load between the speed at max. power & 55% of speed at max. power or 1000 rpm whichever is higher	Evaluative	As per central motor vehicles rules (CMV) rules	Not specified	0.04 m ⁻¹	Conforms
	f) Max. crank shaft torque, (Nm) observed during the test after no load engine speed is adjusted as per manufacturer's recommendation for field work	Evaluative	340	±8% of declared value	339	Conforms
	g) Back up torque, %	Evaluative	7 % min.	Not specified	37.50	Conforms
	h) Max. operating temperature, °C i) Engine oil ii) Coolant	Evaluative	i) 130 ii) 105	Should not exceed the declared value	i) 115 ii) 101	Conforms
	i) Lubrication oil consumption, g/kWh	Evaluative	1 % of SFC at maximum power (high ambient) (max. 2.57)	Not specified	0.621	Conforms
	a) Air cleaner oil pull over in % when tested in accordance with IS 8122 part (II) 2000	Evaluative	0.20 max.	Not specified	Dry type air cleaner provided hence test is not applicable	Not applicable
VII. Discard limit						
	a) Cylinder bore diameter, mm	Evaluative	104.15	Should not exceed the values declared by the manufacture	104.01	Conforms

	b)	Piston diameter, mm	Evaluative	103.90	-do-	103.94	Conforms
	c)	Piston to cylinder liner clearance at skirt, mm	Evaluative	0.15	-do-	0.07	Conforms
	d)	Ring end gap, mm i) Top compression ring ii) 2 nd compression ring iii) Oil ring	Evaluative	i) 1.20 ii) 1.20 iii) 1.20	-do-	i) 0.30 ii) 0.45 iii) 0.35	Conforms
	e)	Ring groove clearance, mm i) Top compression ring ii) 2 nd compression ring iii) Oil ring	Evaluative	i) 0.70 ii) 0.20 iii) 0.10	-do-	i) Tapered ii) 0.09 iii) 0.02	Conforms
	f)	Diametrical and axial clearance of big end bearing, mm Diametrical Axial	Evaluative	0.13 0.60	-do-	0.06 0.35	Conforms
	g)	Diametrical and axial clearance of main bearings, mm Diametrical Crank shaft end float	Evaluative	0.30 0.50	-do-	0.05 0.16	Conforms

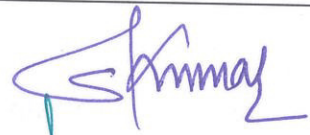

12. LITERATURE SUPPLIED WITH THE ENGINE

The following literatures are provided by the applicant during the test.

- i) Maintenance manual
- ii) Service manual
- ii) Parts catalogue

However, the manual needs to be updated as per IS: 8132-1999.

TESTING AUTHORITY

Er. SANJAY KUMAR AGRICULTURAL ENGINEER	
Dr. MUKESH JAIN DIRECTOR	 29.09.2022

Test report is compiled by Sh. Deny Hasnu Sr. Technician

13. APPLICANT'S COMMENTS

No specific comments received from the applicant

